

MAY
(MAY-JUNE)
1944

CHEMICAL PREVIEW

NEW

★ PROCESSES
★ MATERIALS
★ MACHINERY
★ PRODUCTS
★ APPLICATIONS

Latest developments in chemical process manufacturing...for engineers, chemists and executives.

NBP

OVER 25,000 COPIES

CCA



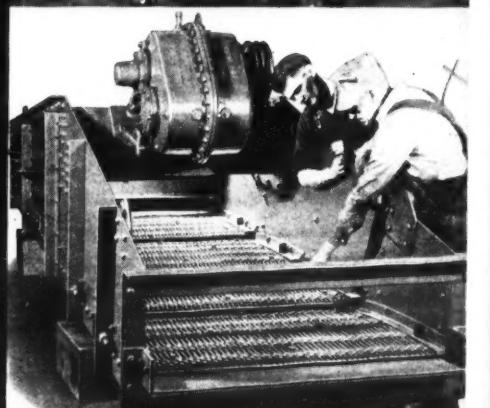
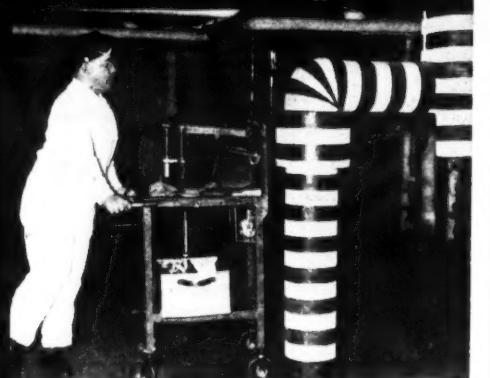
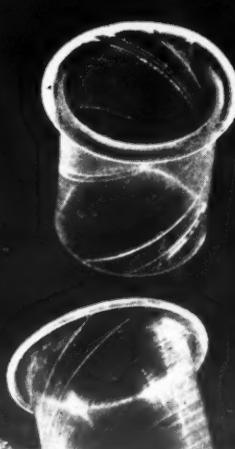
Electric contact heaters used in machine guns, storage batteries also made in many sizes, shapes for processing applications

Continuous glass lehrs feature controlled recirculation of heating gases in critical annealing zones for uniformity of anneal, regardless of belt width or tunnel height

Rubber filter material — 6400 perforations to sq. in. used on large paddle in coal dust recovery from processing water; on small anode in silver plating motor bearings

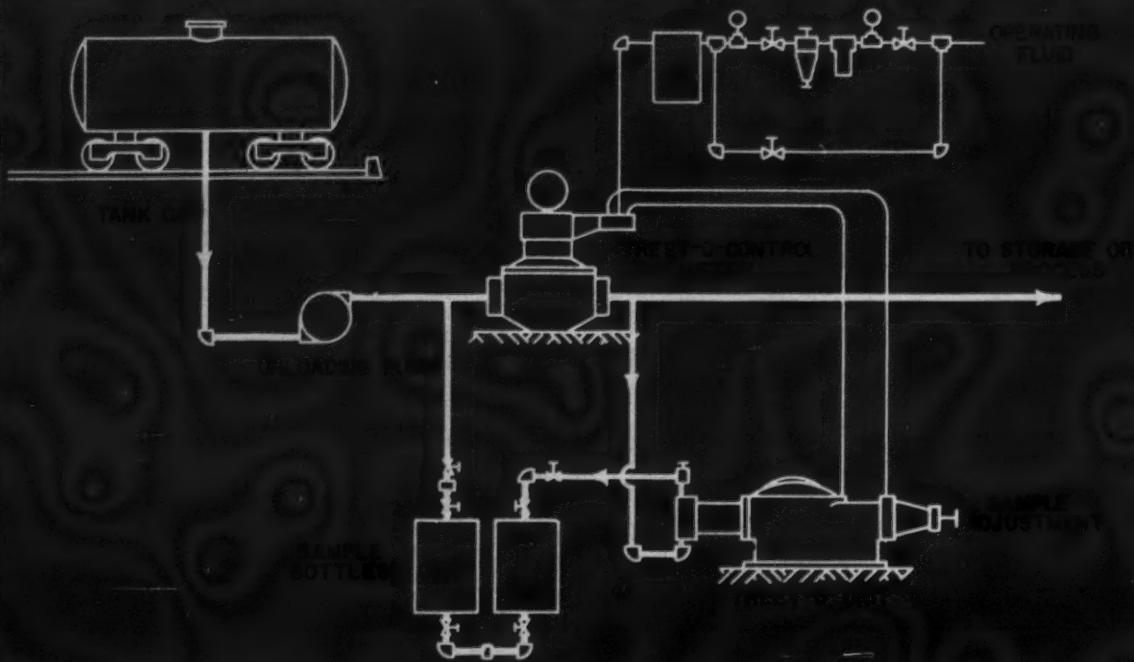
Standardized color safety code identifies hazards by high visibility colors and color symbols

Spun acetate grommets combine insulating, moisture resisting, light weight and non-shattering properties



Employing longitudinally tensioned, transversely flat screen surfaces, deck inherently maintains even material depth — for wet or dry screening: washing, dewatering

SAMPLING



Continuous sampling protects product standards, provides a check on reactions in treating operations and assures uniform products in blending. % Proportioneers Inc. % offer a meter-controlled device to deliver a cross

sectional sample of total flow into a 5 gal. bomb. Samples are uniformly spaced at all rates of flow giving a quantitative and qualitative sample truly representative of all the fluid which has passed through the line.

Proportioning Equipment for Every Process Need

TREATING - Controlled feeding of one or more reagents or treating chemicals either to a constant or variable flow of raw stock or untreated fluid in proportion to flow.

BLENDING - Proportioning two or more fluids or dry materials to each other at constant or varying rates and in predetermined ratio to each other.

DILUTING - Reducing the concentration of a solution to a predetermined final strength either at constant rate or in proportion to demand to suit process requirements.

SAMPLING - Removing minute quantities from a flowing stream at predetermined intervals based on rate of flow so as to produce a composite of the whole.

Send for Bulletin 1700

% PROPORTIONEERS, INC. %

WRITE TO % PROPORTIONEERS, INC. % 41 CODDING ST., PROVIDENCE 1, RHODE ISLAND

That's Interesting

Medicated Honey

Medicated honey has been obtained from bees in a recent Russian experiment. Bees gather nectar from some eighty varieties of plants and fruits. Honey thus produced contained sulpadin, quinine and vitamin C. Such substances in honey are easily absorbed.

Soil Stabilization

A combination of specially treated resins — Stabinol — (Hercules Powder Co.) makes soil waterproof by preventing the penetration of surface water or the capillary rise of surface water from below. The soil will not absorb enough moisture to make it soft or turn it into mud. The product is produced in the form of a dry powder. Used to treat roads, airfields, parking lots, athletic fields and military installations, the stabilizing properties retain effectiveness for several years. Usually the amount used is about 1% of the soil treated.

Gas Driven Paving Breaker

A new style completely self-contained gasoline hammer paving breaker type demolition tool has just been introduced. It is comparable in power to the larger-sized compressed air paving breakers. In principle it consists of a 2-cycle gasoline engine in an inverted position — with two pistons, one an engine and one a hammer piston. It uses moil points, chisels, cutters, tamping tools, etc.

Paper Bomb Wheels

A new synthetic resin makes paper tough enough to withstand rain, mud and snow and permits use of paper instead of metal wheels on bombs. These wheels or bands are placed on the bombs over the lug permitting them to be rolled over the ground with minimum effort and danger. This development is a synthetic "ureaformaldehyde" resin known as Uformite (Resinous Products & Chemical Co.).

Safety Sticker

To more clearly mark obstructions in dark spots in factories a special sticker is now being made. It is four inches by two inches and bears diagonal black and white stripes. It has a special adhesive backing which permits application without moistening to any smooth surface and easy removal without scraping or tearing.

Pressure Sealing Printed Tapes

A new kind of pressure sealing tape bearing letters, numbers or any desired marking labels and seals in one operation. Furnished in widths of 1/2 to 18 inches, the printing is impervious to exposure as the type is imbedded between adhesive and backing.

Made to Order Weather

An ingenious weather chamber at Wright Field, Dayton, Ohio, produces temperatures as low as 58-60 degrees F below zero and 150 degrees above. Included in the repertory are hailstorms, rainstorms, sandstorms, sleet and fog. The chamber is lined with all-welded stainless steel. Such equipment as raincoats and machine guns are tested in the chamber. (Electromet Review)

For more information on product at left, specify CP 9199
... see information request blank between pages 2-3.

Check Below, For More Product Information

EVERY PRODUCT DESCRIBED IN THIS ISSUE IS LISTED BELOW . . . Check the items that interest you. Mail to publisher . . . information comes to you direct, without obligation.

✓ Key Product	✓ Key Product	✓ Key Product	✓ Key Product
9193a Glass-enamelled Agitators	9247 Plastic Instrument Chart	9304 Corrosion-Proof Paint	9361 Filters
9194a De-ionizing Units	9248 Thermocouples	9305 Coating for Plastics	9362 Processing Equipment
9195a pH Recorder	9249 Valves	9306 Skin Protective Coating	9363 Shakers
9196a Portable Conveyors	9250 Thermometers	9307 Pipe Joint Compound	9364 Rubber Machining Data
9197a Processing Equipment	9251 Dial Thermometers	9308 Steam Traps	9365 Infra-red Reflectance Standards
9198a Dewatering Press	9252 Pressure Regulator	9309 Roller Chain Belts	9366 Water Treatment Equipment
9199 Proportioning Pumps	9253 Proportioning Valve & Posi-	9310 Filter Plates	9367 Bag Closers
9199a Dryers	9254 Laboratory Equipment	9311 Chemical Feeders	9368 Ventilated Benches
9200 Motors & Controls	9255 Cam Program Timers	9312 Valves	9369 Gas Masks
9200a Silica-Gel Dehydrator	9256 Thermocouples	9313 Heat Exchanger	9370 Dust Collector
9201 Pneumatic Conveyor	9257 Laboratory Furnace	9314 Plant Construction	9371 Insulated Pipe Conduit
9202 Step Valve Pumps	9258 Moisture Control	9315 Packaging Machinery	9372 Wheels
9203 Mixers	9259 Tank Gauges	9316 Conveyors & Elevators	9373 Steam Trap
9204 Concrete Tanks	9260 Potentiometer	9317 Colloid Mills	9374 Welding Alloys
9205 Caustic Removal Process	9261 Boiler Meter	9318 Electronics & Radio Equipment	9375 Safety Equipment
9206 Magnets	9262 Switches	9319 Mixers	9376 V Belts
9207 Photocopy Machine	9263 Pressure Reducing Valves	9320 Blower	9377 Sub-zero Equipment
9208 Bag Filling Machine	9264 Micromanometer	9321 Regulation & Shut-off Valves	9378 Rotary Pumps
9209 Pumps	9265 Pressure Gauge	9322 Tank Heads	9379 Magnetic Chuck
9210 Steam Traps	9266 Proportioning Pumps	9323 Synthetic Rubber Gloves	9380 Scales
9211 Compressed Air Equipment	9267 Liquid Meters	9324 Liquid Vibrating Screens	9381 Elevator Buckets
9212 Flop Gate	9268 Laboratory Furniture	9325 Handling Buckets	9382 Pipe Tools
9213 Radial Agitators	9269 Thermometers	9326 Filters	9383 Steel Strapping
9214 Centralized Lubrication	9270 Temperature Control	9327 Electrostatic Cleamer	9384 Loading Gates
9215 Louvre Bubble Cap	9271 Metal Marker	9328 Powder Metallurgy	9385 Air & Steam Accessories
9216 Booster Pump	9272 Glass Piping	9329 Strainers	9386 Industrial Trucks
9217 Filters	9273 Welded Equipment	9330 Aridifier	9387 Truck Manual for Women
9218 Conveyors & Elevators	9274 Coal Tar Solvents	9331 Cutting Tools	9388 V-Belts
9219 Controls	9275 Propylene Glycol	9332 Nozzles	9389 Stainless Steel Equipment
9220 Gauges	9276 Plastic Cork Coating	9333 Lift Trucks	9390 Lighting Equipment
9221 2-Dial Rotary Timer	9277 Conductive Coating	9334 Diaphragm Valve	9391 Packaging Data
9222 Mass Spectrophotometer	9278 Coal Tar Chemicals	9335 Chemical Industry Fabrics	9392 Tube Cleaner
9223 Electric Manometer	9279 Benzene Sulfonamide	9336 Hydraulic Presses	9393 Heat Reclaim System
9224 Electronic Level Control	9280 Chemicals & Plastics	9337 Processing Equipment	9394 Pumps
9225 Box & Crucible Furnaces	9281 Plastic Insulation	9338 Dust Suppression	9395 Rotary Air Pumps & Air Motor
9226 Hydrostatic Press	9282 Floor Resurfacers	9339 Pyrogen Retentive Filters	9396 Plastic Pipe & Fittings
9227 Gas Analyser	9283 Metal Cleaner	9340 Rotameters	9397 Combustion Data
9228 Test Chamber	9284 Asbestos Products	9341 Stop Valves	9398 Containers
9229 Instruments	9285 Soil Stabilization	9342 Chain Belts	9399 Salt Tablet Dispenser
9230 Indicating Thermometers	9286 Adhesives	9343 Label Pasting Units	9400 Fenders
9231 Laboratory Furniture	9287 PHO Plasticizer	9344 Industrial Trucks	9401 Pipe Strainers
9232 Water Still	9288 Sodium Citrate	9345 Colloid Mill	9402 Flowmeters
9233 Abraser	9289 Functional Units	9346 Wire Cloth	9403 Portable Conveyors
9234 Oscillograph	9290 Waxes	9347 Fire Extinguishing Systems	9404 Industrial Ovens
9235 Rotameters	9291 Laboratory Glassware	9348 Welding Equipment	9405 Stainless Steel Tubing
9236 Pressure Regulator	9292 Time Delay Relays	9349 Fittings	9406 Packaging Machinery
9237 Solenoid Valves	9293 Calrod Heater	9350 Air Separators	9407 Packings
9238 Time Delay Switch	9294 Glass Ink	9351 Hand Trucks	9408 Recording Scales
9239 Gas Analyser	9295 Insulating Varnishes	9352 Industrial Trucks	9409 Tray Elevators
9240 Oil-Immersed Starters	9296 Synthetic Wax	9353 Aridifier	9410 Timer
9241 Time Cycle Controller	9297 Hydrous Sodium Zincates	9354 Evaporators & Filters	9411 Controller
9242 Dilatometer	9298 Furfural	9355 Flexible Couplings	9412 Seamless Tubing Fabrication
9243 Vibration Tester	9299 Babbit Segregation	9356 Liquid Control Equipment	9413 Pumps
9244 Thermoregulators	9300 Laboratory Ware	9357 Gear Reducers	9414 Infrared Equipment
9245 Air Velocity Meter	9301 Pumps	9358 Laboratory Directory	9415 Carton Stitchers
9246 Laboratory Equipment	9302 Industrial Trucks	9359 Electric Equipment Maintenance	9416 Swivel Joints
	9303 Corrosion Resistant Equipment	9360 Agitators	9417 Eye Shields & Respirators
		9361	9418 Liquid Level Controls

Mail to CHEMICAL PREVIEW, 737 N. Michigan Ave., Chicago 11, Illinois

MORE PRODUCT INFORMATION

Check products which interest you, mail to us

If you wish

If You Wish More Information On Products—

See Reverse Side of this Sheet — Be Sure To Give Your Address

(Listing of products continued)

✓ Key	Product	✓ Key	Product	✓ Key	Product	✓ Key	Product
9419	Electronic Level Controls	9462	Rolling Clutch	9506	Megohm Meter	9548	Pipe-line Valve Lock
9420	End-tension Deck	9463	Conveyor-Elevator	9507	Pipe Tools	9549	Stainless Steels
9421	Rubber Filter Material	9464	Scales	9508	Acid Handling Pump	9550	Iron Cement
9422	V-Belts & Sheaves	9465	Filter Presses	9509	Rivnuts	9551	Vacuum Pumps
9423	Chain Type Shaft Couplings	9466	Copper Ammonium Fluoride	9510	Powder Packaging Units	9552	Dust Collectors
9424	Cold Cathode Light	9467	Industrial Gloves	9511	Sacking Scales	9553	Plastic Pipe
9425	Rotary Pressure Joints	9468	Adjustable Speed Drive	9512	Industrial Trucks	9554	Welding Electrodes
9426	Solenoid Valves	9469	Butterfly Valves	9513	Tractor Shovel	9555	Chain Hoist
9427	pH Equipment	9470	Open Steel Flooring	9514	Humidity Control	9556	Laboratory Furnace
9428	Constant Weight Feeder	9471	Masonry Saw	9515	Compressors	9557	Centralized Lubrication
9429	Pumps	9472	Propellers	9516	Controls	9558	Spraying System Strainer
9430	Indiro-red Coils	9473	Finned Pipe	9517	Catalyst Preparation	9559	Grid Heaters
9431	Cathodic (electric) Rust Preventive	9474	Robbie Arms & Blades	9518	Electric Heat Units	9560	Compressed Air Dryers
9432	Handling Equipment	9475	Steam Traps	9519	Instant Heaters	9561	Stainless Steel
9433	Rheostats & Resistors	9476	Fire Clay Bricks	9520	Valve & Fittings	9562	Utility Truck
9434	Test Instruments	9477	Lubricated Valves	9521	Rechargeable Flashlight	9563	Pipe Reamer
9435	Color Code	9478	Neoprene Gloves	9522	Batteries	9564	Mixers
9436	White Lead Specifications	9479	Barrel Truck	9523	Scales	9565	Rotary Blowers
9437	High Pressure Vessels	9480	Filters	9524	Ultraviolet Sterilizer	9566	Dials & Scales
9438	Belt Idlers	9481	Roller	9525	Handling Equipment	9567	Absorbent Floor Compound
9439	Valves	9482	Magnetic Sweeper	9526	Dust Collectors	9568	Pipe Joint Seal
9440	Test Dryer	9483	Lubrication Data	9527	Storage Bins	9569	Batteries
9441	Crane Power Unit	9484	Dust Collectors	9528	Sintering Furnace	9570	Jacks
9442	Dust Arrestor	9485	Pulverizers	9529	Cloth Tape	9571	Wax Dip & Spray Tanks
9443	Magnets & Sifters	9486	Metering System	9530	Lift Trucks	9572	Glass Insulation
9444	Stencil Machine	9487	Safety Lighting Units	9531	Valves	9573	Impact Wrench
9445	Synthetic Rubber Glossary	9488	Lighting Equipment	9532	Flexible Coupling	9574	Industrial Ovens
9446	Alloy Casting Data	9489	Inspection Unit	9533	Plastic Pre-form Oven	9575	Eye Shield
9447	Fire Extinguishers	9490	Hydraulic Press	9534	Cleaners	9576	Lathes
9448	Turbine Sifter	9491	Heat Exchanger	9535	Steel Grating	9577	Vibratory Packers & Jolters
9449	Gyrating Screens	9492	Fastenings	9536	Vent Valves	9578	Elevator Buckets
9450	Oil Filters	9493	Fire Extinguishing System	9537	Materials Handling	9579	Protective Cream
9451	Vertical Pumps	9494	Closing Devices	9538	Pilot-operated Valve	9580	Mixers & Agitators
9452	Spray Nozzles	9495	Synthetic Gloves	9539	Hose & Assemblies	9581	Casters
9453	Skids	9496	Mixer-Type Jacketed Kettles	9540	Degreasing Units	9582	Spectrum Light Bulbs
9454	Electric Contact Heaters	9497	Handling Equipment	9541	Combination Dryer	9583	Fog Sprinkler
9455	Motors	9498	Industrial Gloves	9542	Bottle Unpacker	9584	Magnetic Filters
9456	Diaphragm Slurry Pump	9499	Dust Collectors	9543	Centrifugals	9585	Floor Patch
9457	Safety Equipment	9500	Pumps	9544	High Vacuum Pumps	9586	Vacuum Pumps
9458	Glass Tanks	9501	Autoclave	9545	Flow Control for Bins, Tanks	9587	Steam Generators
9459	Sifter	9502	Barrel Lift	9546	Lighting Equipment	9588	Safety Cans
9460	Worm Gear Speed Reducer	9503	Vibrating Screens	9547	Spray Nozzles	4th	Cover Porcelain Valves
9461	Screens	9504	Chemical Porcelain	9548	Glass Lehrs		
		9505	Acetate Grommets	9549	Embossing Machine		

Please send information requested to:

Name Title (Please give the firm name)

Firm (Please give the firm name)

Street Address

City and State (Please Give Postal Zone Number)

Mail to CHEMICAL PREVIEW, 737 N. Michigan Ave., Chicago 11, Illinois

The lehr (top) utilizes a fan, atop, tunnel exhaust gases in continuous supply mixture forms, temperature within the tunnel, conveyor belt and flow page 90.

Rubber filter material (left), pharmaceutical and many practical uses. It is plasma and whole blood, of hard or soft rubber resist acids, temperatures

Uniform safety color coding associations of certain chological and visual values recommended. Related symbols in connection with each code give warnings to special benefits who are color blind. See page 68.

Raising the temperature to sub-zero external temperature like those pictured ounces. See page 68.

Ease of assembly is one of the (bottom center) made of one end spun, inserted in over on standard drill tools. See page 80.

The end-tensioned deck maker's vibrating screens chemical, food or ore products at feed end of screen distributed entire width to reduce sur-

How To Use

If you are particularly interested first to the Directory of All Products. Here is an alphabetical listing featured editorially or in the columns. Then, to make sure you keep up with something you have heard, browse through the rest of the columns. The Editors have searched far and wide for a comprehensive Preview of products in chemical processing work. This is to keep posted with a minimum of what interests you particularly, on it, use the handy information. Just check the item that interests you, address and send this slip to the publisher. And don't forget . . . when you mail it to your associates as they'll come to you promptly.

How To Get This

Subscriptions to this magazine are restricted to men who are active in chemical processing plants. You can receive it free of charge from the publishers on your company's connection in your chemical plant, engineer or executive. Start soon thereafter. There is no service.



utilizes principle of convection heating. Exhausts flue gases and delivers these to supply over the burners. Heated temperature of which is desired temperature. Gases are distributed below and flow up and around the ware. See

material (left center) includes many chemical and food applications among its uses. It is used in preparation of blood and blood. Filter screens are made either of rubber and may be compounded to resist abrasion. See page 61.

Color code (right center) utilizes traditional symbols of certain colors and recognizes psychological values of six basic hues recommended symbols and markings used in color code color add to effectiveness of visual benefit of the 4 out of every 100 d. See page 64.

Temperature of 30 lbs. of steel 90° above temperatures is accomplished by a pictured (lower left) weighing a few 68.

is one of many features of grommets made of acetate film, supplied with inserted in place and subsequently spun on drill press equipment with special 0.

deck (lower right) is available on screens of various types — for use in ore processing. Distributing plate screen distributes material uniformly over to reduce surface wear. See page 60.



How To Use This Issue

If interested in a specific type of product, turn to All Products in This Issue on pgs. 99-100. For a listing of every product, whether it is in the advertising.

If you keep abreast of latest developments, perhaps have heard nothing about, you'll want to read the rest of the pages.

Search far and wide to bring you this complete product developments of help to you in your work. Thus, they save your time, enable you to minimum of effort. When you find an item particularly, and you'd like more information, information request slip between pages 2 and 3. The item that interests you, fill in your name and address on the slip to the publishers. The information will be sent to you.

When you have finished this issue, pass it on to others as they'll be interested, too.

Get This Magazine Regularly

This magazine are NOT SOLD. Its circulation is limited to those who are actively engaged, in responsible capacities.

Free of charge simply by sending your request on company letterhead and telling them of your chemical processing plant, if you are a executive. Your request subscription will be sent to you.

There is no charge or obligation for this

What type Glass-Enamelled Agitators are available for HIGH-DUTY agitation?



"Glass-enamelled design for high duty agitators involves four basic considerations: (1) Simple construction, free of sharp corners; (2) Minimum warpage under heat of enameling; (3) Unbalance kept within practical limits; (4) Sufficient agitative capacity at relatively low speeds," says O. W. Greene, Development Engineer.



Pfaudler development work in high duty agitation covers emulsification, gas absorption, suspension of heavy catalysts, etc.—where turbulent mixing is accomplished efficiently. This work and the success of hundreds of Pfaudler installations prove glass-enamelled impeller agitators, in combination with properly designed and positioned baffles, are best suited to the agitation problems encountered in Pfaudler glass-lined equipment.

Simple design permits shapes suitable for glass-enameling; short blades keep the unbalanced condition, impossible to overcome entirely in the application of glass to metal, within practical ranges; the bottom head of the vessel is utilized like one-half of a pump housing; violent agitation can be obtained with minimum stuffing box wear.

It has been found that three types of impellers—"straight blade," "retreating curve blade," and "leading curve blade," in combination with correctly engineered baffling, answer all high duty agitation requirements. The straight blade impellers produce maximum agitation at a given speed in combination with Pfaudler curved baffles. They handle all types of liquids well, although power demand rises considerably with higher viscosity liquids.

With the retreating blade impeller, any resistance from viscosity or clinging to bottom head, produces a definite movement out from the center on the bottom head and up the sides of the tank. This imparts a definite "roll over" of the product and in very heavy products, no baffle is necessary to give good roll over and mixing. It is of particular value in cases where periods of heavy viscosity are present in the process.

The leading curve blade impellers cause the liquid which enters the central portion to flow around the blades and to produce a

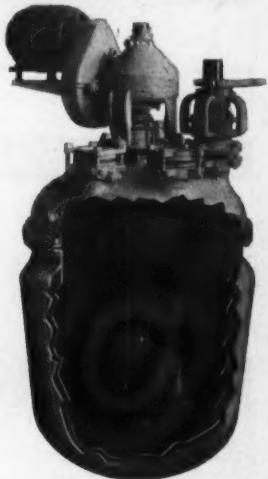
breaking up, mixing or emulsifying action. This type would be indicated when maximum effect is desired at the bottom of reactor with reduced upward currents. This type is unsuited to viscous liquids as agitative effect is local and horse-power required increases very rapidly with the viscosity.

In the majority of cases, however, baffles are essential. When impeller agitators are started without a baffle, a vortex is formed by the center of the top liquid being depressed slightly and setting enormous currents up the sides of the tank which break over sharply on the top. However, as this continues the agitation settles down into purely circular currents with almost no upward currents against the wall of the tank and consequently no agitation or mixing takes place.

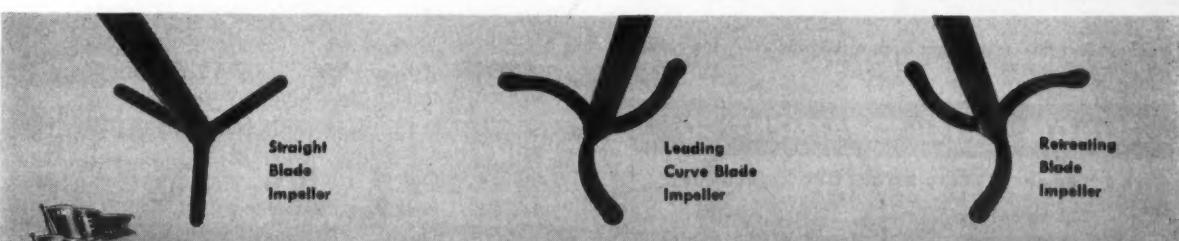
The Pfaudler patented adjustable baffle, with flattened curved blade, has proved efficient for breaking up these currents without retarding wall velocity greatly. With this combination of correct impeller design and baffles located in the tank in the proper position in accordance with the duty, agitation can be secured at lowest practical speed, without excessive H. P. requirements or undue wear on the stuffing box and drive.

If high duty agitation can improve your products, or speed up operations, let Pfaudler Engineers give you the benefit of their long experience and work out for you an economical and efficient application.

Straight blade impeller with patented Pfaudler adjustable baffle as shown in a typical Pfaudler reactor. This combination has a wide application in high duty agitation.



THE PFAUDLER CO., Rochester 4, N. Y. Branch Offices: 330 West 42nd St., New York 18, N. Y.; 1442 Conway Bldg., Chicago 2, Ill.; 1325 Howard St., San Francisco 3, Calif.; 455 Paul Brown Bldg., St. Louis, Mo.; 7310 Woodward Ave., Detroit 2, Mich.; 1318-1st Nat'l Bank Bldg., Cincinnati 2, O.; 1228 Commercial Trs. Bldg., Philadelphia 2, Pa.; 751 Little Bldg., Boston 16, Mass.; 1034 Washington Bldg., Washington 5, D. C.



THE PFAUDLER COMPANY, ROCHESTER 4, NEW YORK
ENGINEERED GLASS-LINED STEEL AND ALLOY EQUIPMENT

When inquiring specify CP9193A . . . see information request blank, pgs. 2-3

That's Interesting

New Models of Electron Microscopes

Two improved electron microscopes, successors to the original "super-eye" instrument which has aided research and manufacture since 1940 are now being exhibited and demonstrated in New York. One of the new instruments is an advanced model of the instrument which was introduced four years ago, the other is in compact console form, the first of its type to be developed. RCA says it is expected to have particular wide application in smaller laboratories, which might not ordinarily be able to utilize the "super-eye" because of limited budgets or space.

Lacquer Protects Equipment From Fungus Growth In Tropics

Communications equipment is now protected from high humidity and fungus growth in the tropics by a new lacquer. These growths absorbing and holding water caused short circuits in equipment. The lacquer is moisture resistant, has high dielectric strength, and retards growth of fungi. It is being used on Signal and other communication equipment at tropical bases. The lacquer may also be used to treat equipment before it is assembled and shipped to the tropics. (It is made by Maas & Waldenstein Co., 438 Riverside Ave., Newark, N. J.).

Mobile Coffee Roasters

Mobile coffee roasting units are now being operated by the Army overseas. One unit averaged 32,000 pounds during its first months of operation.

Blue Tint Identifies Synthetic Rubber

To distinguish between two types of oil resistant synthetic rubber which are practically identical in appearance Hycar Chemical Co. has added a pale blue color to one (OR-25). The coloring is accomplished by adding a small amount of methylene blue to the synthetic rubber emulsion prior to coagulation and washing. Although the blue tint is unmistakable, the methylene blue content in the dried rubber is less than five thousandths of one percent.

A Low Temperature Job

When a recently constructed twenty-four story building in Sao Paulo, Brazil was found to be more than two feet out of plumb due to the settling of one corner, engineers responding to the emergency found the solution in the judicious use of refrigerant piping and calcium chloride. One hundred and sixty double walled circulation pipes, 2 and 4 inches in diameter respectively were driven to depths of 60 feet in the firm ground. An eight months period was required to properly freeze the sub-soil lowering the temperature to -20 degrees C. Deep concrete piers were installed and the building jacked into place. Calcium chloride was used to accelerate the setting which otherwise would not have taken place at such low temperatures. (Reported in Dow Chemical Co's — Dowflakes).

Motor Operates at 120,000 RPM

An electric motor operating at the record-breaking speed of 120,000 revolutions per minute has been built and tested by General Electric. The motor was developed for application to internal grinding machines used to finish small holes less than $\frac{1}{4}$ inch in diameter. It reaches full speed in less than a second.

The Human Skin

The average human skin, if cut and fitted into one unbroken piece would cover an area from 16-20 square feet and weigh about six pounds. (The Flowline)

Where to Find Asbestos

The world supply of asbestos is secured largely from Canada, Russia, Africa and the United States. In our country Arizona, California and Georgia are very productive. One of the earliest uses of asbestos was for wrapping the dead, a practice of the Romans.

(continued on Page 103)

Devine-Built Evaporator and Bubble Tower at a Mid-West Oil Refinery.



from the smallest portable mixers to the towering giants of oil refineries



Acquisition of the engineering and manufacturing facilities of the J. P. Devine Manufacturing Company now enables Porter to offer a complete line of *Better-Built* Process Equipment, from the smallest portable mixers to the largest fractionating columns, bubble towers, evaporators, and other apparatus used in the petroleum refining and process industries. The combined engineering staffs of these two companies are now prepared to serve the food, chemical and petroleum industries in the designing and building of standard or special equipment.

H. K. PORTER COMPANY, INC.

PITTSBURGH, PENNSYLVANIA

BLAIRSVILLE, PA.
NEWARK, N. J.

MT. VERNON, ILL.
NEW BRUNSWICK, N. J.

MT. VERNON CAR DIVISION:
Complete Line of Freight Cars

LOCOMOTIVE DIVISION:
Diesel, Diesel-Electric, Electric, Steam, and Fireless Steam Locomotives.

PROCESS EQUIPMENT DIVISION:
Complete Line of Chemical, Food, and Petroleum Refinery Equipment.

QUIMBY PUMP DIVISION:
Screw, Rotex, Centrifugal, Chemical Pumps.

ORDNANCE DIVISION:
Projectiles, Heavy Forgings, Breech Blocks, Winches.

When inquiring specify CP9197A... see information request blank, pgs. 2-3



If your manufacturing process requires the dewatering of any crystalline, granular or fibrous slurries, you will want to know more about the giant Zenith Pulp Press. This continuous press dewaterers up to fifteen tons of pulp in one hour. Pressure is transmitted (see cut away view) by means of a slowly revolving spiral-bladed spindle. Because of its built-in heating system and design of its walls, draining is doubly efficient. For complete facts write today to:

JACKSON & CHURCH CO., SAGINAW, MICHIGAN

When inquiring specify CP9198A — see information request blank, pgs. 2-3

Page 6

New Solutions of Plant Problems

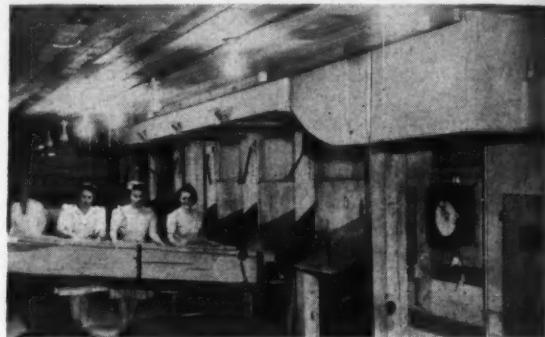
The solutions here given are selected because of their ideas in the application of available equipment or materials to overcoming certain tough plant problems. Many of these suggest basic ideas applicable in kindred or very different problems of process production.

Finishing Bins, Silica Gel Units Speed Final Drying Of Vegetables

Save time, protect products in reducing final moisture content to required percentage

Problem — Most of the moisture in vegetables can be removed during the early stages of dehydration with a conventional tunnel or batch-type dryer. But as drying progresses, time becomes an increasingly serious problem. Total drying period lengthens sharply as the final moisture content approaches equilibrium. Reducing the moisture from 10% to 5% may take almost as much time as bringing it down from 90% to 10%. Variations in the moisture content of outdoor air affect dehydration rates, particularly during humid weather. Raising the temperature of the air to offset these variations may endanger the high quality demanded, by causing scorch or other blemishes. A related problem is smoothing out production rate variations in order to deliver dried vegetables on a schedule satisfying the packaging department is routine. To illustrate: sometimes it is desired to operate the dryer around the clock and run the packaging department on eight — or sixteen-hour shifts.

Solution — Dehydrated air or mechanical dried air, prop-



FINISHING BINS to which dry air is supplied

erly applied to finishing bins, solves both problems. Drying time is reduced without affecting quality of product, and the finishing bins are sufficiently large to store an entire 24-hour output of the dehydrating tunnels. A typical successful assembly of finishing bins (Sweet Potato Growers, Inc., Laurel, Miss., illustrated here) is a structure 5 ft. 2 in. x 10 ft. x 24 ft. It contains six food storage compartments of 75 cu. ft. each. Additional compartments can be added.

Through a duct under the bins, warm dry air is supplied to the compartments through manually-operated slide dampers. The food is supported on a perforated diffusion plate which permits passage of the air, as well as an unobstructed flow of food to the discharge gate. The air carries away moisture picked up from the food. Renewable paper filters remove entrained particles of food before the air returns to the silica gel dehydrator and the circulating heater. Approximately one-third of the cooler is arranged for connection to a supply of water at not over 85°F. After-cooler coil can also be mounted in air discharge duct if it is required for lower bin temperatures.

Results — Moisture content of vegetables can be reduced to required specifications — as low as 3%. Drying time is reduced, at no sacrifice in product quality. Moisture is removed from air mechanically, and constant inside humidities are maintained as required regardless of variation of outside humidities. As bins are made to store 24-hour output of the dehydrating tunnels, the food can be packaged on eight — or sixteen-hour basis.

Description — Finishing bins are built of 1 in. plywood, or tongue and groove lumber. Doors are gasketed, joints caulked. Bottom of compartment is made of sheet steel and wood supporting members, arranged to form a series of



ROSS DRYERS

Embodying the use of ROSS Air Heaters, direct or indirect, give you needed EX-TRA heat, required EXACT-ING control—greater SPEED with absolute SAFETY.



J. O. ROSS
ENGINEERING CORPORATION
350 Madison Ave., New York 17, N. Y.
CHICAGO 6 — DETROIT 3 —
201 N. Wells St. 12953 Greeley Ave.

When inquiring specify CP9199A — see information request blank, pgs. 2-3

The ROSS Laboratory, one of the finest in equipment and facilities, is available for determining correct conditions for treatment of your product. Consult us on this service.

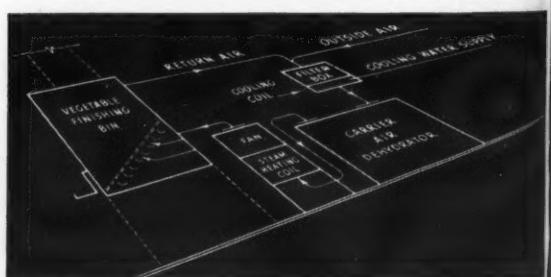


DIAGRAM OF SILICA-GEL DEHYDRATOR
... installation for finishing bins

CHEMICAL PREVIEW MAY

New Solutions

overlapping slots through which the warm dry air is admitted. Dehydrator is self-contained, and operates automatically. It consists of a rotating cylindrical wire screen drum containing silica gel, two fans and a motor drive, drive mechanism to rotate the drum, an air heater for activating the silica gel, and a suitable housing. Complete information on request.

CARRIER CORP., Dept. CP, 300 South Geddes St., Syracuse 1, N. Y.

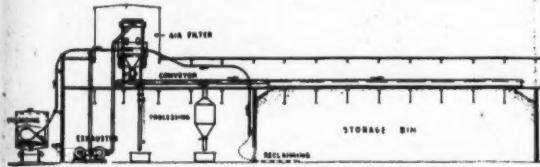
When inquiring specify CP9200A — see information request blank, pgs. 2-3

Pneumatic Conveying System Stops Spread of Paper-Maker's Clay Dust

Unloads and reclaims fine materials; moves it from car to storage to process; reclaims from storage to process

Problem — Unloading and reclaiming finely divided materials, such as paper maker's clay, involves not only a matter of man hours, but also an operation which creates a large amount of dust.

Solution — Use of a carefully engineered pneumatic conveying system this dust problem is overcome. Drawing shows general detail of a pneumatic conveyor which takes clay from a bulk car, delivering it either to the process



CROSS SECTION OF AIR CONVEYING SYSTEM mixers or to storage, and then reclaims from storage to process, all without creating flying dust either at the point of pick-up or in the exhausted air. The method of separating the material from the carrying air is by means of a four-compartment automatic filter which delivers material to distributing equipment and filters out the dust with the air passing on to the conveyor operating as an exhauster. The flow of air which conveys the material is produced by a liquid-sealed compressor (acting as a vacuum pump) with the inlet connected to the conveying system operating on vacua from 8 inch to 12 inch of mercury or with 25 to 40 percent vacuum. Drawing shows relative position of compressor-exhauster, as well as the chart of conveyor line from freight car to filter and from storage bin to filter. Mechanical conveyors operate to clear the hopper beneath the filter for distribution to processing or final use.

Results — Disagreeable dust conditions eliminated, savings in labor, larger volume handled with greater ease. COMPRESSED AIR INSTITUTE, Dept. CP, Room 2108, Terminal Tower, Cleveland, Ohio.

When inquiring specify CP9201 — see information request blank, pgs. 2-3

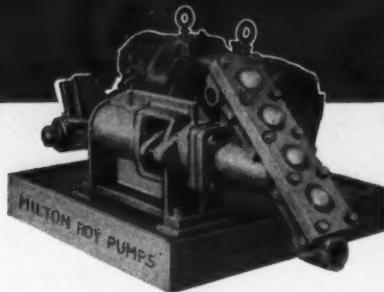
Do You Have a New Solution?

Has a recent use of your equipment solved a difficult chemical plant problem? The equipment may be new or from your standard line. For publication, data should state definitely (1) Nature of operation in question, i.e., cooking, cooling, mixing; (2) Difficulties involved such as control of temperature, product uniformity, lubrication or cleaning; (3) How was equipment used — in standard or modified form? (4) Results, facts on savings in time, labor, increased production or similar cost factors or extent of product improvement. Address the Editors. CHEMICAL PREVIEW

737 N. Michigan

Chicago 11, Ill.

MILTON Roy Step-Valve PUMPS

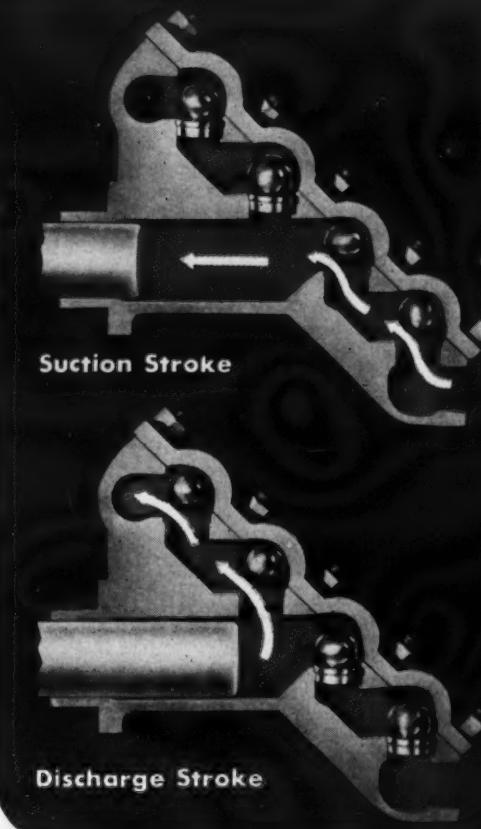


Particularly Well Adapted for Handling

- Viscous Materials
- Crystals or Fibres in Suspension
- Slurries
- Food Products

Note how the double-ball checks in this Milton Roy Step-Valve climb high out of their seats . . . how the flow of the pumped liquid is in an almost straight line under, not around, the ball checks.

This streamlined flow has a self-cleaning action. Flow resistance and slippage are minimized. High and reproducible volumetric efficiencies are assured. An exact volume of liquid is pumped at each and every stroke of the plunger. Note also that the discharge of air or gas from this valve must be instant and complete . . . air pocketing is impossible. Also that even if the first ball-check may be temporarily held off its seat the second check must continue to function . . . thus eliminating "orifice action" and wire-drawing. Note, too, how readily accessible the entire interior of this Step-Valve is, simply by the removal of the single cover plate and without disturbing intake or discharge piping.



The above advantages are basic, exclusive with Milton Roy Step-Valve design. They make it possible for these pumps to handle extremely viscous materials, tars and asphalts, textile fibres in suspension, acid sludges, etc. For handling such materials against negative differential pressures outside spring-loading is available.

Milton Roy Pumps are available in all metals that can be cast or machined, also in transparent plastics; for practically all chemical services; for pressures up to 20 thousand pounds; in capacities up to 1300 gph (Simplex) and 2600 gph (Duplex). More details on request.

MILTON Roy PUMPS



1310 E. Mermaid Ave., Chestnut Hill, Philadelphia, 18, Pa.

When inquiring specify CP9202 . . . see information request blank, pgs. 2-3

New Solutions

Method of Concrete Tank Construction Saves Steel, Provides Liquid Tightness

*Meets problems of tensions,
shrinkage; earth loads*

Problem — Use of concrete construction for chemical, water, tanks and other structures involves meeting such conditions as imposed by load tension, shrinkage, temperature changes, earth loads, plastic flow etc. **Solution** — Method known as "Preload" system is now being used in designing, and building tanks, silos, igloos, domes etc. Steel and concrete are made to cooperate to the full value of each with a substantial reduction in cost per load unit. In the case of a tank steel bands are tensioned around a concrete shell similar to their use in wood stave construction. The bands compress the concrete. When the tank is filled the liquid load elongates the shell. The tension in the bands is slightly increased and the compression in the concrete is reduced. The important result has to do with the concrete. Instead of being tensioned in conjunction with the steel as the tank is filled, it releases compression. This is the feature of the system. This is in contrast to various cases where ordinary reinforcing steel, without processing, is imbedded in the concrete and bonded to it. In the "Preload" structure there is said to be no resistance due to shrinkage. Horizontal cracking of the tank is prevented by prestressing vertically. The amount of steel reinforcement needed in "Preload" tanks is about ten percent that required for steel plate tanks. Stressed wire said to have ultimate strengths of over 20,000 pounds per square inch has to a considerable extent replaced prestressed rods. The wire is wound around the concrete walls by a machine developed by the originators of the Preload process. The wire will carry a load quite in excess to the capacity of the rods and has other definite advantages. Bulletin describing the process has table

RX FOR TOMORROW

Here's a mixer of modern design which may be just the prescription you need for your post-war production . . . a prescription for tomorrow! Its single packing gland design eliminates contamination. Developed by Readco especially for operation under high vacuum it enables the evaporation of moisture or solvents from materials being mixed at temperatures below their atmospheric boiling point.

Readco engineers build the complete line of these double arm vacuum mixers in working capacities from 2.5 to 400 gallon . . . built with meticulous and attention to stability . . . designed to fill the particular needs of the process. With new processes and new materials, new equipment will be required for the greatest future this world has ever seen. Let Readco engineers help you plan for that future.

ARMY E NAVY

Readco for Quality

For more information on product at right, specify CP 9203
see information request blank between pages 2-3.

READCO

VACUUM MIXERS

SPECIFICATIONS

READCO SINGLE PACKING GLAND DOUBLE ARM MIXERS

Working Capacities 2.5 to 400 gal.

Contamination is Eliminated by Single Packing Gland Construction. The Packing Gland is far removed from material being mixed. Split seals, which are an exclusive Readco feature, and are easily removable, are mounted on the arm shafts at the bowl ends. Vacuum chambers at bowl ends are arranged to eliminate all possibility of pulling air or vapor through the product being mixed.

Self Cleaning Mixing Arms—Overlapping or tangential action Readco arms mix with no dead spots. Close clearance and scrapers keep the bowl ends clean. Removable nose pieces may be furnished. Arm speeds are provided to suit requirements—multi-speed or variable speed if desired.

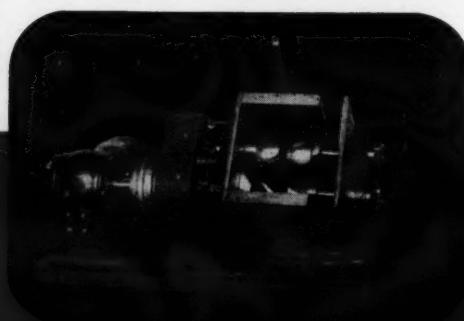
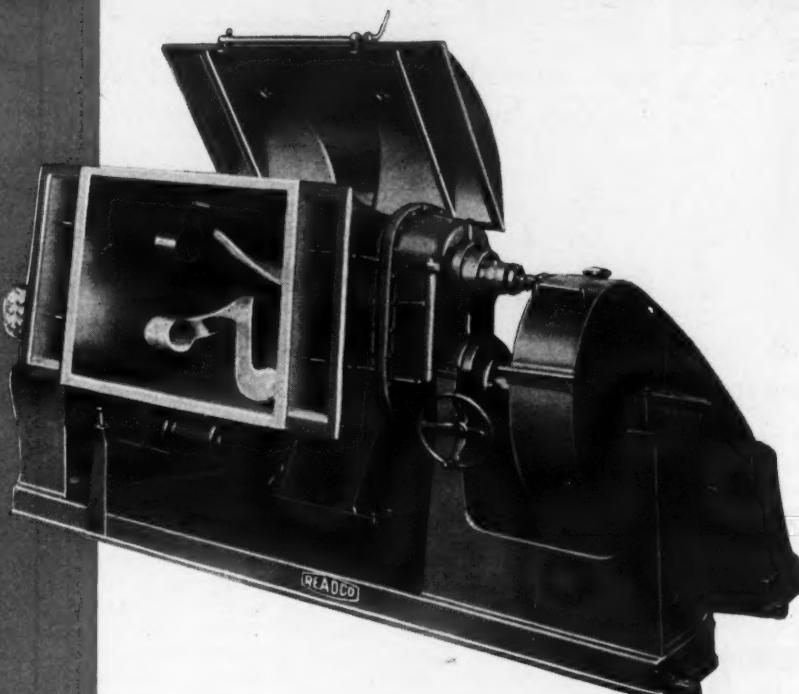
Temperature Control is arranged for by means of full, partial or divided jacket on the bowl, with or without arms arranged for circulation of temperature controlling medium.

Discharge is obtained by tilting bowl, bottom discharge or a combination of both.

Adjustable Cover mounted to permit perfect sealing at all times is clamped in place by a positive quick acting device. Piping provided for vacuum, jacket and charging connections—no flexible hose required.

Less Maintenance with fully enclosed driving and dumping mechanism running in oil.

Safety Features electrically interlocked to meet code requirements.



LABORATORY MIXERS

Easily dismantled for quick cleaning. Built in working capacities of 1, 3 and 6 quarts.

PILOT PLANT MIXERS

Built of common metal or stainless steel with or without vacuum or jacket—in working capacities of 2 1/2, 5 and 10 gallons.

MATERIAL HANDLING EQUIPMENT • PILOT PLANT MIXERS • BOTTOM DISCHARGE OR TILTING BOWL MIXERS • BLENDERS • SIFTERS • SHREDDERS • ACETYLATORS • VERTICAL MIXERS • PHARMACEUTICAL EQUIPMENT



READ

MACHINERY CO., Inc.
YORK, PENNSYLVANIA

New Solutions

showing savings in steel for storage tanks of various capacities.

Results — Savings in vital materials. Liquid tightness and permanence. Typical savings: Tank. Inside diameter 78 feet, height 26 feet 6 inches, capacity 1,050,000 gallons, quantity of steel plate required, 202,000 pounds, conventional reinforcing concrete design rods 180,000 pounds. Preload design wire mesh and reinforcing rods, 19,000 pounds, pounds of steel per gallon capacity, steel tanks, 0.193, concrete tanks, 0.172, preload tanks, 0.018. Recent successful applications include completion of several 100,000 barrel oil tanks, built above ground.

PRELOAD CO., Dept. CP, 420 Lexington Ave., New York 17, N. Y.

When inquiring specify CP9204
— see information request blank, pgs. 2-3

Use Bicarbonate of Soda in Removing Excess Caustics From Fabrics

Acid resistant equipment unnecessary; work speeded

Problem — Practice in textile finishes operations has been first to neutralize excess caustic with "sour", usually sulphuric acid. Then acid was in turn neutralized with soda ash, or normal sodium carbonate.

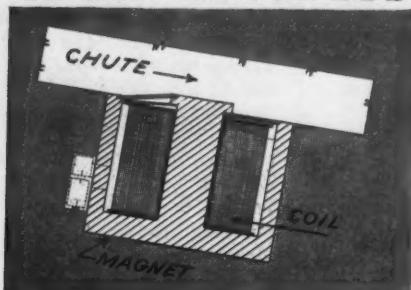
Solution — A new process of using bicarbonate of soda for removing excess caustic soda from goods in various textile finishing operations in which the caustic and the bicarbonate react to form the normal carbonate, which is easily washed out of the goods. Applications already been found successful include removal of caustic after continuous jig scouring or mercerizing of open width fabrics, after kiering and after caustic steaming.

Results — It is claimed that the new process by eliminating the use of acid, makes unnecessary the use of acid resistant equipment, minimizes the hazards to workers and reduces the number of steps in some processing operations. The quality of the goods is said to be improved by the use of hot washes which are entirely safe in the bicarbonate process.

MATHIESON ALKALI WORKS, INC., Dept. CP, 60 E. 42nd St., New York 17, N. Y.

When inquiring specify CP9205
— see information request blank, pgs. 2-3

DINGS Double-Gap SPOUT MAGNETS



afford Effective, Economical Iron Removal

DINGS Double Gap Spout Magnets are *High Intensity* Separators for removing iron from material passing down a chute. Installed in the chute as shown in the diagram, they hold iron fast below a step in the magnet face. It is practically impossible to dislodge an accumulation of iron until the current is turned off. For automatically discharging the iron an automatic gate can be supplied and as integral part of the magnet. Here's trouble-free, positive, economical tramp iron-removal. Dings also builds a complete line of Magnetic Pulleys and Suspension Magnets. Write for details today.

DINGS MAGNETIC SEPARATOR CO.

510 E. Smith St. • Milwaukee, Wisconsin



When inquiring specify CP9206 — see information request blank, pgs. 2-3



NOTES AND RECORDS, even when written in pencil, may be photo-copied accurately and in privacy when you have the A-PE-CO Photo-Copyer. A-PE-CO photo-copies are easier to read than the original notes. Any girl or boy makes A-PE-CO photo-copies of anything written, printed, drawn or photographed. No technical training needed. Letters, sketches, blueprints and technical data are photo-copied in all detail with A-PE-CO. In thousands of industries the A-PE-CO Photo-Copyer is indispensable. Pays for itself quickly. Get this new business habit! Send for folder—NOW!

AMERICAN PHOTOCOPY EQUIPMENT CO.
2849 N. CLARK ST. Dept. DK-54 CHICAGO 14, ILLINOIS

Representatives in principal cities

In Canada, Railway & Power Engineering Corp., Ltd.



When inquiring specify CP9207 — see information request blank, pgs. 2-3

Page 10

New Solutions

Compressed Air Removes Dark Rice Grains, In Cereal; Speeds Removal At Low Cost

Flexibility of compressed air equipment makes it useful in many processing applications

Problems — The high standards observed in modern food processing impose many problems of sanitation, precision control, packaging etc. Proper applications of compressed air or vacuum offers the best solution to many of these problems. Typical cases are cited here.

Problem — Cereal processor desired to remove dark, off-color grains of rice. Since these off-color grains are of almost normal size and shape it did not seem feasible to engineers of the company to attempt removal by automatic or mechanical selection.

Solution — Vacuum offered a logical means of separating this "chaff" from the rice. Rice is brought from storage to flaking process by a mechanical conveyor. Girls with keen eye-sight are seated along the conveyor. They can quickly "spot" the dark grains of rice. The vacuum process is applied by means of small compressed air hose with special small nozzles. The hose or air line is attached to air compressor used as an exhauster and is therefore a suction line. The nozzle end of this line is the compressor intake, the compressor exhaust being opened out into the atmosphere. The girls quickly pick-out the dark grains, as the rice is carried by on the conveyor, by means of the suction

For Manufacturers of Light or Fluffy Products St. Regis 100 L-S AUTOMATIC VALVE BAG FILLING MACHINE

Minimizes Entrapped Air Problem... Speeds Packaging of Product... Weighs The Product... Operates With Unusual Ease... Fills From 60 to 90 Bags (100 lb.) Per Hour... Packs in Units From 25 to 100 Lbs.

If you are now using Multi-wall Paper Bags, or if your product is baggable in these sturdy, heavy duty shipping sacks, your inquiries are cordially invited. We will be pleased to examine your product and tell you if 100 L-S will handle it efficiently. Send coupon for folder.



ST. REGIS 100 L-S
SCREW TYPE PACKER
In addition to Screw Type, St. Regis Valve Pack Systems include Belt, Impeller and Gravity Type Packers designed for packaging a wide range of commodities.

ST. REGIS PAPER CO., 230 Park Avenue, New York 17, N. Y.
Send illustrated folder on L-S 100 Filling Machine

Is 100 L-S suitable for packing weight per cubic foot Spec. gravity

COMPANY INDIVIDUAL ADDRESS

[In Canada: Bates Valve Bag Company, Ltd., Montreal, Que.]

When inquiring specify CP9208 — see information request blank, pgs. 2-3

Free — Send for It Today!

ADVANCE INFORMATION ON ALLIS-CHALMERS' NEW

• TYPE A-O AUTOMATIC SELF-PRIMING PUMP

What it Is—

Allis-Chalmers new Type A-O is an automatic, self-priming centrifugal pump... the main feature of which is a new-type spring valve which is giving high efficiency, freedom from clogging and long life.

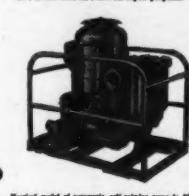
Of one-stage design, the new A-O has a large opening in its impeller which permits solids up to one inch to pass through without clogging. The new-type spring valve, which permits the pump to draw water from any source, is located in the pump body. The valve is held closed by a spring which is tensioned by a screw. The valve is self-priming.

A complete assembly in itself, the automatic spring valve is furnished as a unit for repair purposes. Use

the arrangement, if experienced help can make replacement in a very short time without injury to the pump.

Allis-Chalmers new Type A-O Automatic Self-Priming Centrifugal Pump will very likely fit your present drive facilities. Adaptable to gas engine, steam, electric motor or power plant, the new pump is ideal for use with water power, as well as ordinary, well-head, or jet-type water power.

For automatic spring valve, distinguish Allis-Chalmers Type A-O Automatic Self-Priming Pump from other self-priming centrifugal pumps. Remote control, self-priming, and self-priming pump valves are not the same. The new pump also features a fast, simple, one-step priming operation.



Type A-O Automatic Self-Priming Centrifugal Pump shown here is a fast, simple, one-step priming operation.

Find out how Allis-Chalmers new many-purpose Automatic Self-Priming Centrifugal Pump may benefit you. See how its new-type spring valve operates, how this feature makes Type A-O the **fastest priming pump on the market**. Write for Bulletin 6319 now!

ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN

A 1741

When inquiring specify CP9209 — see information request blank, pgs. 2-3

Free VALUABLE BOOK sent upon request

The book, "How to Choose a Steam Trap," is indispensable to anyone who wants to buy Steam Traps efficiently. It tells you all you need know ... condensation rate charts, short formulas for computing condensation, capacity of steam-using equipment, the right size for unit heaters, autoclaves, jacketed kettles, etc., all this and a great deal more valuable information on selecting a Steam Trap. Send us your request on your letter-head and the book will be sent to you immediately.

THE V. D. ANDERSON COMPANY
1954 West 96th Street • Cleveland 2, Ohio

Makers of
SUPER-SILVERTOP STEAM TRAPS

When inquiring specify CP9210 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

New Solutions

nozzles. A screen arrangement in the receiver permits only air to continue to the compressor exhauster, the removed grains dropping down and later disposed of. The operation is repeated after the rice has been flaked.

Results — Improved uniformity and quality of product. Greater attractiveness and sales appeal. Actual cost of operations negligible.

Problem — Plant processing tomatoes sought to greatly speed up washing operations and at the same time do a most thorough job.

Solution — Compressed air is used as an agitator in the cleaning operation. Tomatoes are carried on a conveyor and dumped in tanks of water. Low pressure air nozzles at bottom of tanks keep water in vertical circular motion. The tomatoes entering the tank are constantly passed from a lower level to the top and back again, finally being carried below the surface and out of the tank by mechanical means. The advantage of this agitation by compressed air lies in the fact that the tomatoes are carried underneath a high pressure water spray as they come up to the water surface. This spray hits the tomatoes as they roll over and over and all dirt and foreign matter not absorbed by the tank water are eliminated.

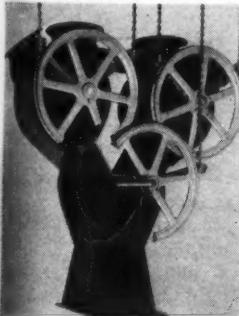
Results — Cleaning operations are speeded up and the time saved is a big factor in meeting the time limitations imposed by the seasonal nature of the work.

COMPRESSED AIR INSTITUTE, Dept. CP, 2108 Terminal Tower, Cleveland, Ohio.

When inquiring specify CP9211 — see information request blank, pgs. 2-3

Non-Leaking Multiple Outlet Flop Gate For Dusty, Powdery Materials

Prevents leakage down wrong leg material wholly contained within the chute



NON-LEAKING GATE

Problem — In handling dusty powders and materials without leakage down wrong leg. **Solution** — New gate, is modification of maker's inverted "Y" multiple outlet flop gate. This gate (see illustration) directs the material down one leg of the gate, or the other with a pivoting chute having semi-circular sides, instead of the pivoting plate used in conventional construction. Material passing through the gate, although very fine or powdery, is wholly contained within the chute and has no opportunity to pass down and out the wrong leg, through the clearances that must of necessity be maintained in pivoting plate construction. The chutes are operated easily with a chain and chain wheel — without sticking or binding and are held in position by gravity until changed. The gates have self-damming spouts and are available with two, three, four or more outlets, and in any capacity desired. Additional information on request.

C. O. BARTLETT & SNOW CO., Dept. CP, Cleveland 5, Ohio.

When inquiring specify CP9212 — see information request blank, pgs. 2-3

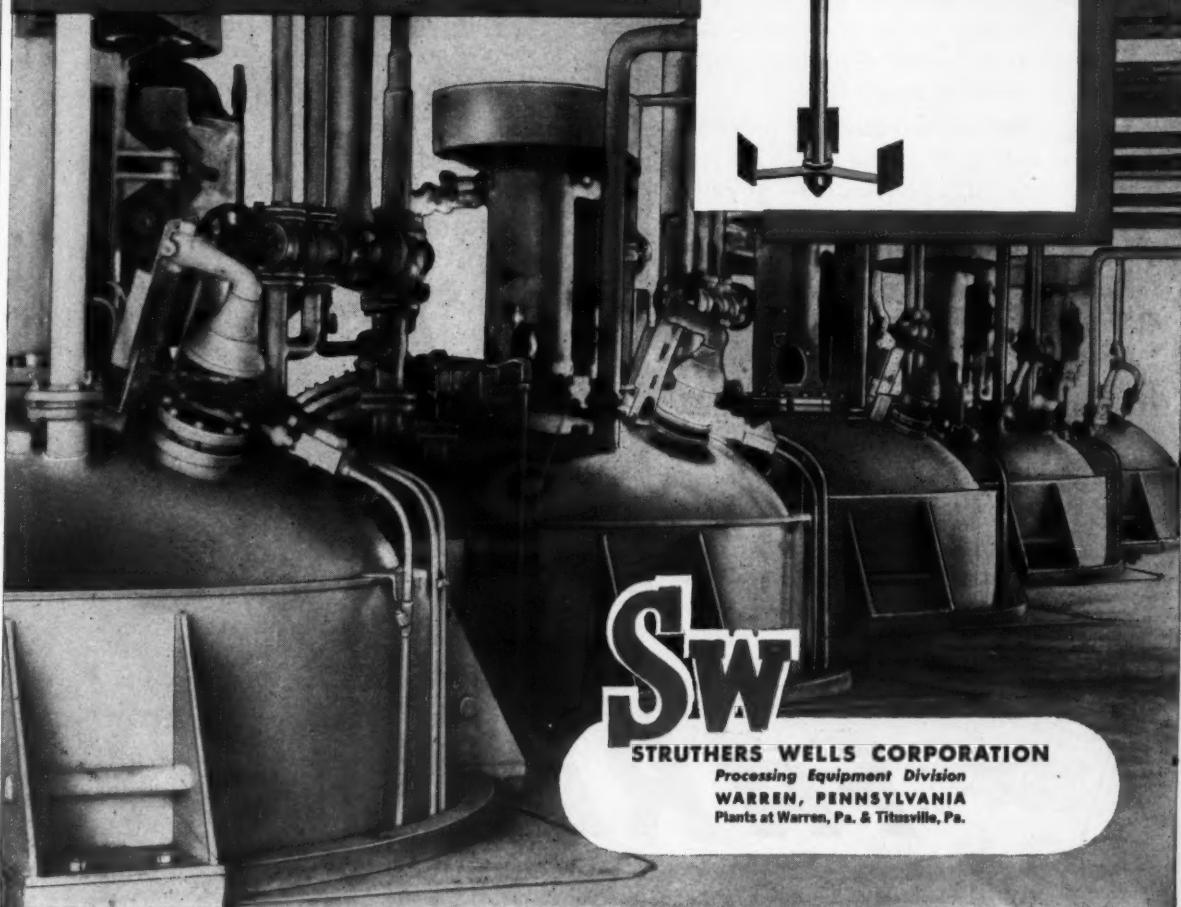
MAY - JUNE, 1944

Struthers Wells

DESIGNERS AND BUILDERS
OF MIXING EQUIPMENT
FOR THE
CHEMICAL PROCESSING
Industry

Dependable Struthers Wells Mixing Equipment—the result of more than 50 years of progressive experience in designing and building process equipment from both ferrous and non-ferrous metals.

Struthers Wells engineers and master craftsmen are always ready to work with you in the development and selection of the correct and most efficient type of mixing equipment for your particular requirements.



STRUTHERS WELLS CORPORATION

Processing Equipment Division
WARREN, PENNSYLVANIA
Plants at Warren, Pa. & Titusville, Pa.

When inquiring specify CP9213 . . . see information request blank, pgs. 2-3

New Solutions

Louvre Type Pressed Cap Provides Desired Bubble Colliding Action

Produces action not obtained with conventional pressed cap having straight slots



LOUVRES force larger bubbles to collide

Problem — Operators of fractionating columns who have wanted to use a pressed type cap have not obtained the desired results with the straight slots used in the conventional pressed cap. Therefore, many operators have continued to use the cast bubble cap because this was the only way to get the colliding bubble action.

Solution — Bubble cap incorporating louvres designed to meet this requirement. It is pressed from 14 gauge material and is available in stainless steel or copper. (In addition to standard 3 in. cap, any desired size can be made).

Results — Louvres (see illustration) force the larger bubbles to collide.

BRIGHTON COPPER WORKS, Dept. CP, Brighton Station, Cincinnati 14, Ohio.

When inquiring specify CP9215 — see information request blank, pgs. 2-3

Pump Fills Gap Between Diffusion, Mechanical Pumps for Processing

For better vacuums in dehydration of biological, food products and in chemical processes

Problem — A pump was needed which operated above the range of diffusion pumps and which increased the efficiency of mechanical pumps at lower pressures where the effectiveness of the mechanical pump falls rapidly to zero.

Solution — Vacuum pump was developed which operates very efficiently in the gap between diffusion and mechanical pumps. The booster pump is essentially an ejector-type pump made up of a boiler, nozzle, diffuser and condenser. It increases the efficiency of mechanical pumps by compressing the gases pumped to higher pressures where the mechanical pumps operate most effectively. The speed of an ordinary 100 cfm mechanical pump can be increased to 600-800 cfm in the range between 1 micron to 300 micron by use of the pump.

Results — This and other users of vacuum pumps have increased pumping capacity without addition of more mechanical pumps. Also it is possible to operate with fewer pumps.

DISTILLATION PRODUCTS INC., Dept. CP, 755 Ridge Road West, Rochester 13, N. Y.

When inquiring specify CP9216 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

HOW TO LUBRICATE ALL OF YOUR BEARINGS *At Once*

and make sure you're missing none!

Positive—inclusive—safe! With the Farval Centralized System you send oil or grease to your bearings instead of sending a man to lubricate them by hand.

Standing safely on the floor, he operates the Farval Central Pump which forces the lubricant under high pressure to **all of your bearings at once**.

The Farval System pays you cash dividends: Power Consumption reduced by as much as 20%—Bearing Life prolonged 5 to 25 times—Lubricant Consumption cut by 75%. Farval eliminates waste—of Time, Manpower, Materials—makes every minute count for profitable machine production.

Farval will keep your Process Equipment on the job. Send for the Farval Representative now.

The Farval Corporation, 3257 East 80th Street, Cleveland 4, Ohio.

Affiliate of The Cleveland Worm & Gear Company
In Canada: PEACOCK BROTHERS LIMITED



FARVAL

CENTRALIZED SYSTEMS OF LUBRICATION

When inquiring specify CP9214 . . . see information request blank, pgs. 2-3

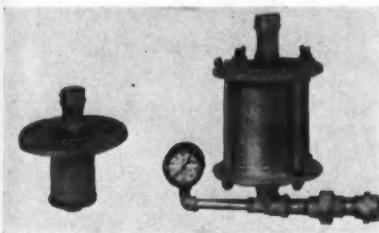
New Solutions

Small Filters Remove Lint From Pharmaceuticals

Units cleaned by removal of head and backwashing or sharp spraying of surface of the stone

Problem — Removal of small quantities of lint from otherwise clear liquids, antiseptics, mouthwashes.

Solution — Laboratory size porous stone filters are used as fine strainers. They are attached to the end of the discharge line into the final storage tanks. The filterstone retains all lint particles, which are readily disposed of by removal of the head and



FILTER REMOVES LINT

backwashing or sharp spraying of the surface of the stone. The pressure gauge indicates when the accumulated lint particles are present in sufficient quantity to require cleaning of the unit. The model illustrated is Number L - 5. This type is also available with a stone element twice as long. For large flow capacities or for longer cycles before cleaning, similar units using hollow-disc stone filters are available with straining areas up to four square feet. The L - 5 contains about twenty-four inches of filtering area; a companion model L - 6 fifty-seven inches. These two models can be used on small batches, experimental work and to finish the unfiltered residue from the maker's large size filters. On the maker's Master, Super and Super-Twin (larger) models provision is made for attaching these. In this way a batch may be filtered down to the last few ounces of residue. The small laboratory models may also be attached to any pump fitted with a control pressure. These are completely of bronze, equipped with pressure gauge, hose connections.

Results — Complete lint removal from practically the entire batch.

LEVAL FILTER CO., (Dept. of Swenson Evaporator Div.-Whiting Corp.) 925 Wrightwood Ave., Chicago 14, Ill.

When inquiring specify CP9217
— see information request blank, pgs. 2-3

For more information on product at right, specify CP 9218
... use information request blank between pages 2-3.



The REDLER Conveyor-Elevator pictured above is compact and requires a minimum of supporting structure as it transports a solid column of material within sealed casings from one building to another.

No two material handling problems are alike. But the goal of the user is always the same: to secure conveying and elevating systems that will move materials at maximum speed and safety and at minimum cost.

Whatever the set of conditions in your operations...whatever the materials you

handle...you can depend on Stephens-Adamson for an engineered system that will do the job right.

Take advantage of S-A's 42 years of experience in building every type of handling equipment and building that equipment into practical, time-saving, high-efficiency systems. Write for information.

STEPHEN S-A DAMSON
11 RIDGEWAY AVENUE, AURORA, ILLINOIS
MFG. CO. LOS ANGELES, CALIF. * BELLEVILLE, ONT.

Designers and Manufacturers of All Types of
BULK MATERIAL HANDLING EQUIPMENT



PRESSURE, FLOAT & VACUUM SWITCHES

• **SQUARE D** offers a wide range of switches, designed and built for practically all sizes of water pumps, condensate pumps, vacuum pumps, and air compressors. You'll find this catalog a valuable source of reference. Send for your free copy today.

REGULATOR DIVISION
SQUARE D COMPANY
DETROIT • MICHIGAN

When inquiring specify CP9210 — see information request blank, pgs. 2-3

★ INSTRUMENTS of CONTROL

Two Dial Rotary Type Timer For Catalytic and Other Processes

Serve where hundreds of accurately timed, sequential operations must be performed as in production of high octane gasoline, butadiene for synthetic rubber



TIMER operates at selected speed

thus provide the safety assured by an automatic system.
Description — Scope of timer is indicated in applications

Uses — Regulates flow of products in catalytic processes such as in production of high octane gasoline, butadiene for synthetic rubber, and toluene for explosives. It can be easily adapted to control a number of chemical and industrial processes now manually regulated and

to operations required in products mentioned, including a great number of accurately timed, sequential operations involving opening and closing of electrically operated valves, dampers, and devices in a definitely timed cycle. Depending on the process requirements, a completion of operations may require from twenty minutes to three hours, or more; from eighteen to seventy-five devices may be controlled; and from one hundred to 900 contact points or timing intervals may be needed. Such requirements are met by this timer in which each of two dials has two concentric rings or rows of 224 contact points each — a total of 896. Each dial has a rotating contact arm. The arms are geared to a single shaft and can be driven through a clutch by a synchronous motor and adjustable gear train, so they can be operated independently from separate motors. A spare motor and a handwheel for operating the unit manually are also available. The circuit to the segments is made and broken through an auxiliary switch, not at the segments, and the unit will easily handle control circuits of 10 amperes, 125 volts. Essentially a large motor selector switch, the timer operates at a speed which may be selected to suit the process. It is arranged to complete the circuit to the controlled device or an alarm circuit as a moving brush selects each point. Flexible jumpers are provided for connecting between segments and a terminal board. Jumpers are plugged to the segments which will provide the desired operating cycle and all incoming control leads are brought to the terminal board. The equipment is enclosed in steel housing, with window for viewing the timer segments and operating arm, and will line up with other control boards and panels which may be required.

GENERAL ELECTRIC CO., Dept. CP, Schenectady, N.Y.

When inquiring specify CP9221 — see information request blank, pgs. 2-3

Mass Spectrophotometer Aids Fast, Accurate Analysis of Aviation Fuel

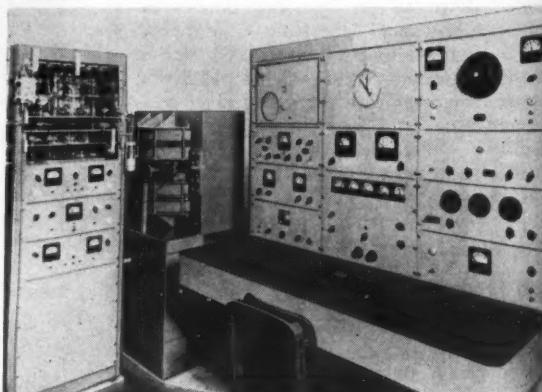
Run on 24 hr. basis they make possible much closer control over production with little loss of time

Uses — Quantitative and qualitative analysis of complex gas mixtures.

Features — The basic mass spectrophotometer has been made into a complete analytical tool by the addition of many important features, some of these are: sample introduction system, automatic recording unit, automatic pro-



**MARSH
GAUGES**



MASS SPECTROPHOTOMETER for analysis of complex gas mixtures

JAS. F. MARSH CORP., 2075 SUMPTER AVENUE, CINCINNATI 2, OHIO

When inquiring specify CP9220 . . . see information request blank, pgs. 2-3

INSTRUMENTS

tective devices, general automatic operation and complete manuals of procedure furnished by maker.

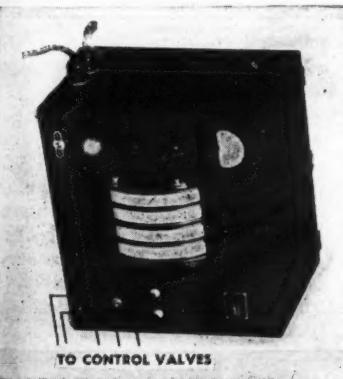
Description — Instrument is composed of three units: Master control cabinet, sample introduction cabinet and magnet which contains the mass spectrophotometer proper. This is now being most specifically applied to the analysis of hydro-carbon mixtures in the manufacture of high octane aviation fuel and synthetic rubber. Samples of one cubic centimeter can be analyzed with remarkable accuracy, requiring from twenty-five minutes to two hours for the entire operation, including necessary computation. Typical application: Analysis of the extremely large number of samples necessary to control aviation gasoline production has been a serious bottleneck. In controlling the cracking process, time is one of the most important factors in order that improper adjustments may be changed before production has gone too far. The mass spectrophotometer has been operating during the past six months in several refineries to alleviate the situation. Fast, accurate analyses run on 24 hour basis have made possible much closer control over production with relatively little loss of time. Increased output is perhaps the most tangible result of the use of this instrument. This advanced means of control also plays a large part in the increased quality of production with far fewer stoppages. One refinery ran over 200 samples on this instrument and found that savings were most substantial.

CONSOLIDATED ENG'G. CORP., Dept. CP, 1243 E. Green St., Pasadena 5, Cal.

When inquiring specify CP9222 — see information request blank, pgs. 2-3

Electric Manometer Provides Inches And Tenths Readings

In ranges 0-100, 0-5, 0-30, 0-50 with accuracy plus or minus 1.10 of 1%



MANOMETER and drum indicator

bridge electrical circuit. The pressures are converted into actual inches and tenths readings which are on a drum indicating unit. This instrument has a range of 0 — 100 inches of water with a sensitivity of $\frac{1}{4}$ to $\frac{1}{10}$ of 1 in. with an accuracy of plus or minus one tenth of 1%. The unit is also available in much lower ranges of 0 — 5; 0 — 30; and 0 — 50 inches, having correspondingly better degrees of sensitivity with the same percentage of accuracy.

TRIMOUNT INSTRUMENT CO., Dept. CP, 37 W. Van Buren St., Chicago 5, Ill.

When inquiring specify CP9223 — see information request blank, pgs. 2-3

THE MAGIC FINGERS OF Electronic LEVEL CONTROL

"Feel" the correct level of liquids, powders . . .

respond instantly — to start or stop pumps, open or close valves, operate signals.

Control is floatless, maintenance-free . . . no moving parts to wear or fail in operation . . . no floats or stuffing boxes.

Only a metal probe, electronic finger of Photoswitch, enters the tank. Liquid or powder, making or breaking contact with this probe, relays to the electronic control a minute electrical current, measured in microamperes. Amplified, it operates a heavy-duty switch to control signals, valves, or pumps — provide single-level indication and control, on and off pump control at two levels, boiler feedwater control, tank condensate signals, any type of pump programming arrangement.

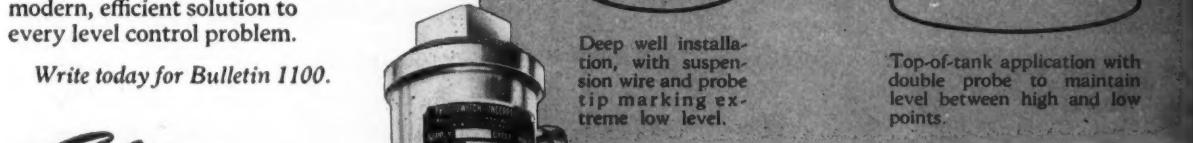
Easily installed . . . sanitary for food installations . . . suitable for corrosives . . . safe with combustibles . . . Photoswitch Electronic Controls are effective with all liquids and powders, conductive and non-conductive — provide the modern, efficient solution to every level control problem.

Write today for Bulletin 1100.

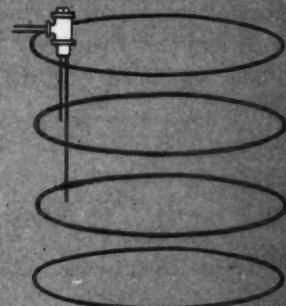
Electronic

Uses — To change minute pressures which might be expressed in inches and tenths of inches of water into electrical reading.
Description — The reading is made possible by a very sensitive pressure measuring device which operates on a no-point principle utilizing a wheatstone

bridge electrical circuit. The pressures are converted into actual inches and tenths readings which are on a drum indicating unit. This instrument has a range of 0 — 100 inches of water with a sensitivity of $\frac{1}{4}$ to $\frac{1}{10}$ of 1 in. with an accuracy of plus or minus one tenth of 1%. The unit is also available in much lower ranges of 0 — 5; 0 — 30; and 0 — 50 inches, having correspondingly better degrees of sensitivity with the same percentage of accuracy.



Side tank application with individual probes placed at desired limits for two-level pump control.



Top-of-tank application with double probe to maintain level between high and low points.



LEVEL CONTROLS

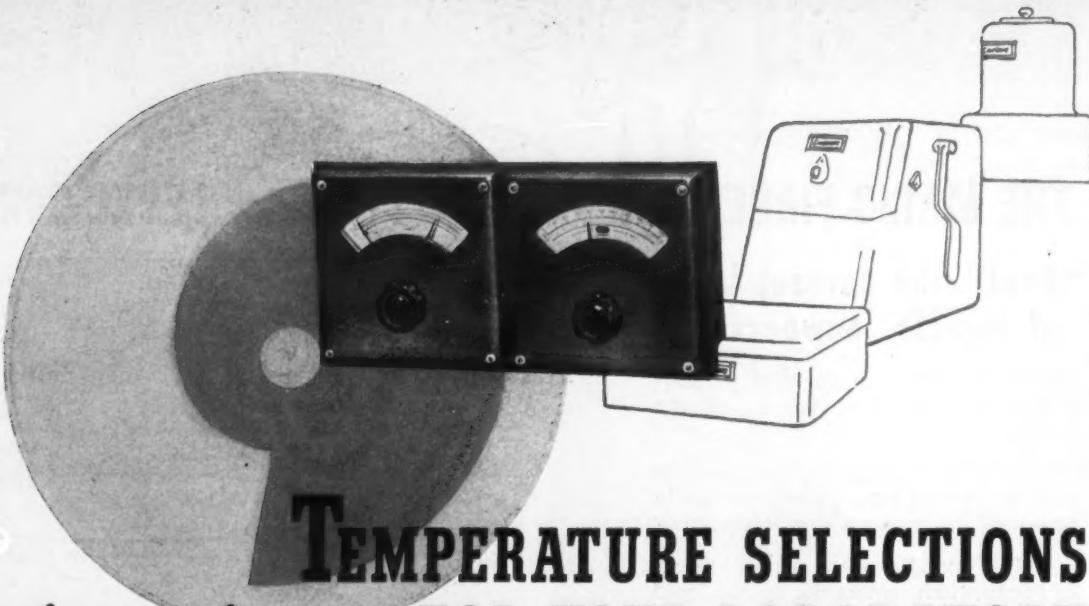
OTOSWITCH
INCORPORATED

CAMBRIDGE 42, MASSACHUSETTS

District Offices in All Principal Cities

PHOTOELECTRIC AND ELECTRONIC CONTROLS FOR EVERY INDUSTRIAL PURPOSE

When inquiring specify CP9224 . . . see information request blank, pgs. 2-3



TEMPERATURE SELECTIONS right on the nose FOR YOUR LABORATORY

No MORE, will it be necessary to resort to just plain guess work when you are doing those important laboratory heating jobs. Lindberg Box Furnaces and Crucible Furnaces as well as Hot Plates, equipped with the well known Lindberg "Stepless" Input Control will provide your laboratory with the means to select the exact input for the temperatures you require.

The Lindberg Input Control operates on a timed interruption principle based upon percentages of the total wattage of the furnace or the hot plate. For example, when the indicator on the control, which has a scale graduated to read in percentage of the rated wattage of the equipment, is set to 50%, the current will be "ON" only one half time, resulting in one half the input. If a temperature is required where a 51% setting is necessary, the current will be "ON" longer and the temperature will be proportionately higher. The slightest movement of the control indicator will vary the temperature.

The Box Furnace is built in two sizes and is equipped with a Lindberg Input Control and a temperature indicating pyrometer for temperatures up to 2000°F.

The Crucible furnace is efficient either as a furnace where crucibles are used, or, as a pot furnace for melting or immersion heating. Range of temperature is up to 2000°F. The Lindberg Input Control and a temperature indicating pyrometer are furnished as standard equipment.

Hot Plates, in three convenient laboratory sizes, are for temperatures up to 950°F. Heating is accurately obtained with the Lindberg Input Control.

You will certainly want to know more about the advantages of Lindberg furnaces and hot plates. Why not call your laboratory equipment dealer today.

LINDBERG ENGINEERING COMPANY
2450 WEST HUBBARD STREET • CHICAGO 12, ILLINOIS

LINDBERG

WELL KNOWN THROUGHOUT THE WORLD AS
LEADERS IN DEVELOPING AND MANUFACTURING
INDUSTRIAL HEAT TREATING EQUIPMENT

SOLD EXCLUSIVELY THROUGH LABORATORY EQUIPMENT DEALERS

When inquiring specify CP9225 . . . see information request blank, pgs. 2-3

INSTRUMENTS

Hydrostatic Testing Press

Determines qualities of metals, alloys, paint, enamel coatings and containers



Uses — In determining strength of materials and design; testing of drawing qualities of metals, fatigue in metals and alloys and the influence of heat treatment; also facilitates comparison of welding methods.

Description — Press features simple operation. The clamping portion makes it possible to test articles of various heights without the inconvenience of retooling. Coatings for metals such as paints, enamels and plastics can be tested by alternate applications of pressure, simulating expansion and contraction. External compression may be employed to determine the strength of containers.

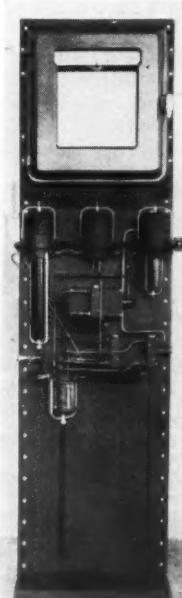
Rapid porosity and seepage values are accurately obtained through uniform application of pressure. Impregnation of aluminum-magnesium alloys by boiling or soaking should be accomplished more efficiently under pressure possible with this hydrostatic test press.

DENISON ENGINEERING CO., Dept. CP, Columbus, Ohio.

When inquiring specify CP9226 — see information request blank, pgs. 2-3

Analyser Continuously Record O₂, CO₂, CO, H₂ In Combustion Processes

For use wherever knowledge of amounts of gas mentioned is required; recordings made continuously on single chart



Uses — Continuously records the O₂, CO₂, CO, and H₂ in combustion processes.

The instrument was built for installation in large metallurgical plant. The instrument is useful in processes wherever knowledge of the amounts of the gases mentioned is required. Its use enables close control in chemical processes, oil refining and in the operation of various types of kilns, inert gas producers, furnaces in metallurgical industry and other combination processes.

Features — Chemicals, fragile glassware and moving parts in the analyses unit are eliminated. In all applications the results are recorded directly without any corrections or interpolations of any kind. The upkeep required is of a routine nature and the services of a technically trained man for this duty are not necessary.

Description — The complete analyzer operates directly from the alternating current supply line. The recorder may be located at any required distance from the sampling point and the instrument can be furnished with

CHEMICAL PREVIEW

com
ana
the
bus
associ
into
The
con
abo
as
in
con
the
sam
rec
and
show
dition
on
CAB
Gran
Ea

PLUG
Feat
sign
tained
ate
ready
turn
insert
the
regula
chang
movin
being
entire
on oth
Descri
by pre
peratu
Cham
AMER

When
MAY

INSTRUMENTS

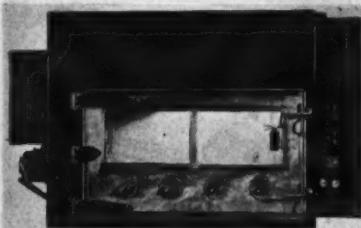
contacts for operating warning signals or to actuate various control circuits. In theory the instrument accomplishes analysis by direct comparison of the thermal-conductivity of the sample before and after chemical absorption or combustion. This principal of operation permits units to be assembled to meet many special problems. In the operation of a typical unit a continuous sample of gas is drawn into the analyser by means of a water bubbler-aspirator. The exact detail of the analysis procedure varies with the constituents of the sample but may involve a chemical absorption and/or combustion. The aspirator mentioned above not only draws in the sample of gas but meters it, as well as the air which may be required for combustion in the analysis procedure. The recorder is automatically connected to the circuit of each analysis cell in succession, the duration of each connection being one minute. There is no additional time lag between points because the gas sample flows continuously through all cells. A continuous record of the analysis is provided on a 10 inch strip chart, and the four different registrations (one for each gas) are shown by different colors and numbers on the chart. Additional information regarding the 4-Point Gas Analyser on request.

CAMBRIDGE INSTRUMENT CO., Dept. CP, 3732 Grand Central Terminal, New York, N. Y.

When inquiring specify CP9227 — see information request blank, pgs. 2-3

Easy Access To Test Chamber By Plugs In Lower Panel Of Door

Plug easily opened, hand inserted through insulated passage to move parts, regulate instruments under test



PLUGS GIVE ACCESS without opening entire door of test chamber

Uses — For testing at whatever temperature is desired between minus 70° degrees C. and 158.8° degrees C. with temperatures at any level so that actual service conditions may be created.

Features — This improved machine, which embodies design of the maker's standard equipment, may now be obtained with the added advantage of four individually operate plugs in the lower panel of the door which permit ready access to the interior of the testing chamber. A turn of the handle opens the plug. The hand may be inserted through an insulated passage and the position of the part being tested can be adjusted. In the case of a regulating instrument being tested, its reading may be changed, so that the test may be conducted without removing it from the cabinet, or disturbing other pieces being tested. This eliminates the necessity for opening the entire door and thus endangering the accuracy of the test on other parts in the chamber.

Description — The machine is completely automatic, and by precision mechanism assures closest control of all temperatures. It is known as the Model RTC — 1 Test Chamber.

AMERICAN COILS INC., Dept. CP, Newark, N. J.

When inquiring specify CP9228 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

314-ACRE SHOWROOM FOR LATEST STYLES IN TAYLOR INSTRUMENTS



IMAGINE a display room packed with the very latest developments in instrumentation—and all we can do is tell you about it!

If you could visit the new Port Neches project, you would see hundreds of Taylor Instruments controlling vitally important processes from butadiene to latex. You would see:

TAYLOR LIQUID LEVEL CONTROLLERS, both Buoyancy and Ball Float types (see below).

TAYLOR FULSCOPE RECORDING CONTROLLERS. Some equipped with Taylor Pre-Act. Some with the new Four-Position Automatic-To-Manual Bypass. Some with Taylor Pneumatic Set.

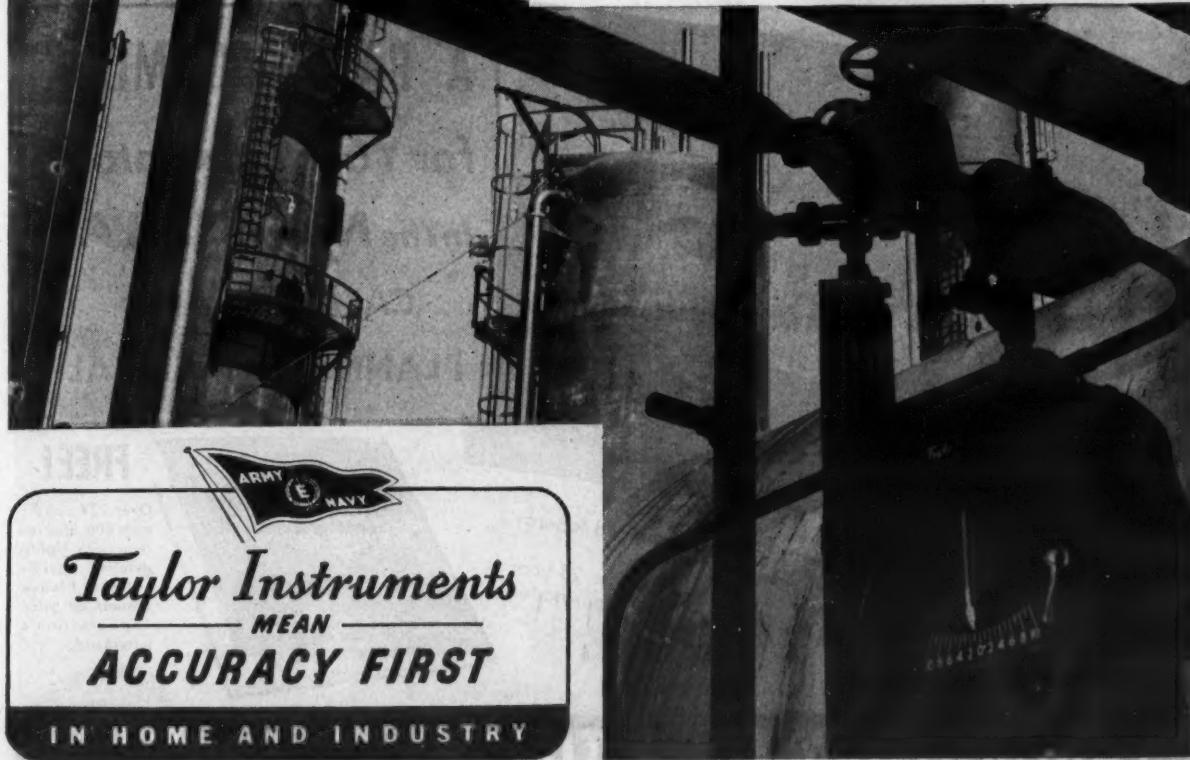
MOTOSTEEL DIAPHRAGM VALVES with new improved Precursors. And Motosteel Diaphragm Motors on steam-driven compressors.

DIAL INDICATING THERMOMETERS and **RECORDING PRESSURE GAUGES**. **TAYLOR ACCURATUS TUBING**, compensated for ambient temperatures, and **TAYLOR THERMOSPEED SEPARABLE WELL CONSTRUCTIONS** on all mercury-actuated Temperature Recorders and Controllers.

Last but most important of all, in the copolymer plant, you would see the **TAYLOR SYSTEM OF CONTROL** on reactors, developed for the first pilot plants and now standard equipment for this most critical process.

If you can't visit the Port Neches plant, see your Taylor Field Engineer for detailed information and prompt deliveries! Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Instruments for indicating, recording, and controlling temperature, pressure, humidity, flow, and liquid level.



Taylor Instruments
MEAN
ACCURACY FIRST

IN HOME AND INDUSTRY

When inquiring specify CP9229 . . . see information request blank, pgs. 2-3

POWERS

INDICATING
and
RECORDING THERMOMETERS



Some of the many different types of Dial Indicating and Recording Thermometers we make are shown here. We also make Recording Regulators and Regulators combined with easy to read Indicating Thermometers. Write for Bulletins. Specify type of instrument in which you are interested.

THE POWERS REGULATOR CO.
2756 Greenview Ave., CHICAGO

Offices in 47 Cities—See your phone directory

50 Years of Temperature and
★ Humidity Control ★

When inquiring specify CP9230 — see information request blank, pgs. 2-3

INSTRUMENTS

Oscillograph Facilitates Studies Over Wide Frequency Range

For observation of low-speed machinery and low frequency functions; for photographic recording



OSCILLOGRAPH for recurrent, transient studies

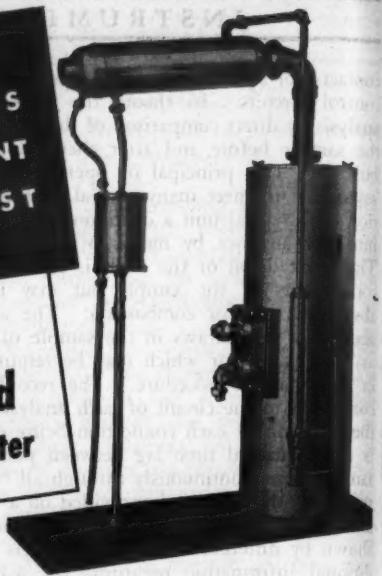
Description — The sweep frequency range has been extended down to one-half cycle per second providing a wider range of sweep operation. The time base provides recurrent, single or repetitive sweep operation. High in-

Uses — To facilitate the investigation of transient as well as recurrent phenomena over a wide frequency range. It may be used for observations of low speed machinery and for other low frequency functions.

Features — The instrument utilizes the new Army-Navy type 5CP1 cathoderay tube with intensifier electrode, operated at an overall accelerating potential of 3000 v.

TO
CHEMISTS
WHO WANT
THE BEST

Use
Barnstead
Distilled Water



The purest water is the surest water for getting best results in laboratory work. So use Barnstead Distilled Water. It's chemically and bacteriologically pure consistently day after day . . . every drop of it.

Barnstead Water Stills range in size from $\frac{1}{2}$ to 500 gallons output of pure distilled water per hour. Operation by gas, steam or electricity. Write for new Catalog D.

66 Lanesville Ter., Boston 31, Mass.

When inquiring specify CP9232 — see information request blank, pgs. 2-3

Barnstead
STILL & STERILIZER CO. INC.

A BASIC FORMULA for Your Laboratory In The New STEELAB CATALOG AND PLANNING MANUAL



FREE!

Over 224 pages:
over 800 illustrations with highly detailed specifications. Please request on your organization's letterhead.



Through all its pages are shown the elements of a well-equipped laboratory and how to combine these into your plans. Now is the time to make your plans based on equipment with a 25 year background in more than 10,000 of the nation's finest laboratories.

LABORATORY FURNITURE COMPANY, INC.

37-22 NORTHERN BLVD., LONG ISLAND CITY 1, N. Y.

When inquiring specify CP9231 . . . see information request blank, pgs. 2-3



• A Taber Abraser will pay for itself by the results revealed when used to test wearability of a wide range of materials and finishes.

Write today for Bulletin 4012 illustrating wide applications.

TABER INSTRUMENT CORP.
111 CP Goundry St., North Tonawanda, N.Y.
Designers and Builders of Precision and Scientific Instruments

When inquiring specify CP9233 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

INSTRUMENTS

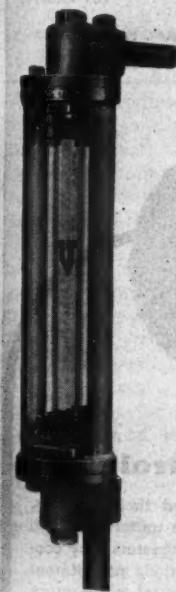
tensity patterns are obtained on the five inch diameter screen. If a permanent record of transient phenomena is required, the instrument may be supplied with short-persistence blue screen for high speed photographic recording, or with long persistence green screen for visual observation of low-speed phenomena. An unusual beam control circuit is used with single sweep operation, to darken the screen except during the actual sweep cycle, providing a reduction in background illumination and resulting in photographs of greater contrast. Exceptionally uniform response over a very wide frequency range for both the vertical and horizontal axes; a distortionless, continuously-variable low impedance attenuator or gain control; a Z amplifier channel for applying external timing signal to the grid of the modulating electrode mark this instrument. Dimensions: 14" w., 19" h., 26" d., Weight 130 lbs. This oscillograph is identified as Type 247.

ALLEN B. DU MONT LABORATORIES, INC., Dept. CP, 2 Main Ave., Passaic, N. J.

When inquiring specify CP9234 — see information request blank, pgs. 2-3

Rotameter End Fittings Permit 25 Different Piping Hook-Ups

No mercury or transmitting fluids; accuracy at flow rates as low as 1/10 of maximum



ROTAMETER with one piece frame

head cause it to spin in the fluid, the rotor remains in the center of the fluid stream so that there is no friction or wear. Removable rotor stops, top and bottom are provided. Rotors can be made of any suitable material including glass. End fitting for 1/2 in. to 2 in. rotameters in cast iron, brass, stainless steel. Rotameters for severe corrosive conditions furnished on special order. Literature on request.

SCHUTTE & KOERTING CO., Dept. CP, 12th & Thompson Sts., Philadelphia 22, Pa.

When inquiring specify CP9235 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

MASONEILAN NO. 27 REGULATORS

Provide an accurate pressure "Reducing-Diet"

In thousands of installations . . . throughout the chemical, refining and natural gas industries . . . Masoneilan No. 27 regulators are providing accurate, positive control of pressures. And best of all, they keep up this precise control . . . year after year . . . without continual adjustment for load changes, without control time lag, without shift from control setting between full, open and closed.

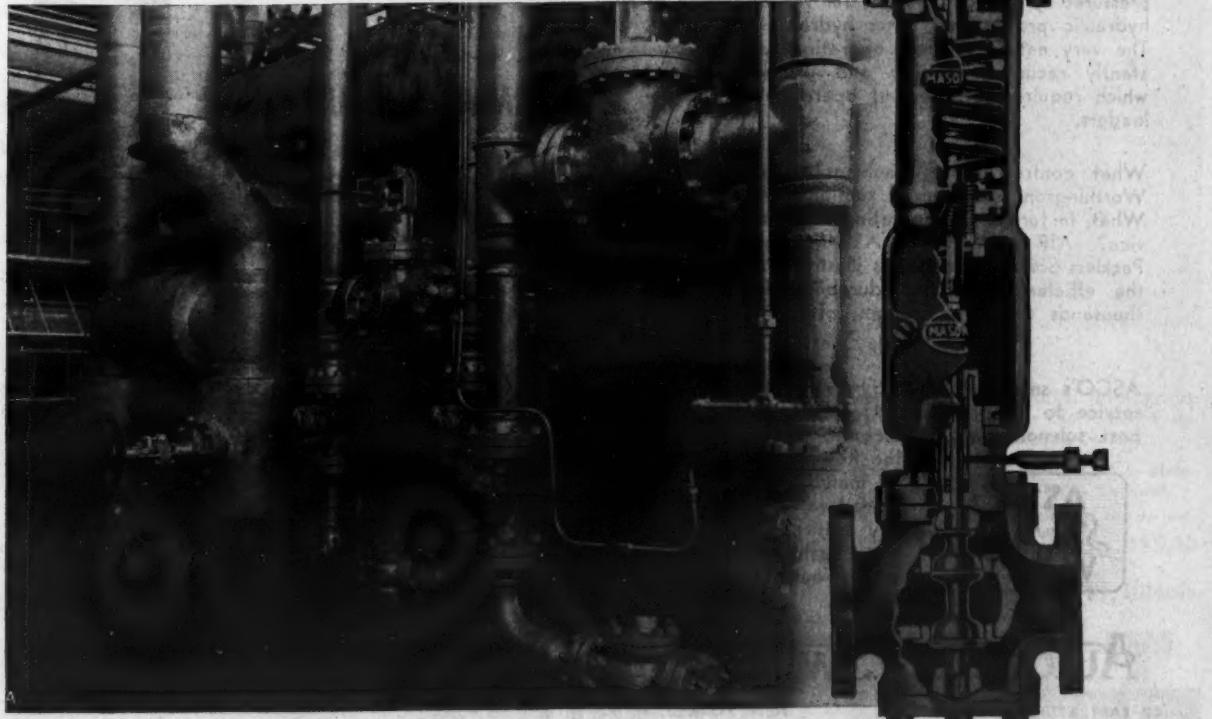
Investigate Masoneilan No. 27 pressure regulators. They are built for controlled pressures between 5 and 1800 psi.



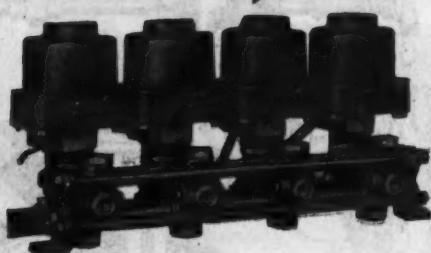
**MASON-NEILAN
REGULATOR CO.**

1203 ADAMS ST., BOSTON 24, MASS., U.S.A.

New York Philadelphia Pittsburgh Tulsa Toledo Chicago Atlanta St. Louis
San Francisco Los Angeles Houston Mason Regulator Co. of Canada, Ltd., Montreal



When inquiring specify CP9236 . . . see information request blank, pgs. 2-3



The photograph shows one of the well-known line of Worthington Hydraulic Pumps used to generate pressures up to 5000 pounds for the operation of hydraulic presses and other hydraulic equipment. The very nature of their operation calls for constantly recurring loading and unloading cycles which requires split second operation of the unloaders.

What controls these machines? The ingenious Worthington synchronized suction valve unloader. What, in turn is the operating medium of this device? AIR controlled by ASCO Group Mounted Packless Solenoid Valves, as illustrated. They have the efficiency and the durability to withstand thousands of cyclic changes, often in rapid succession.

ASCO's service to industry in general is like its service to Worthington: (1) helping to select the best solenoid valve for controlling automatically the flow of gas or liquids; (2) manufacturing the required valves in any quantity desired. In sending for further information, please outline your problem.



Automatic Switch Co.

47 EAST 11th STREET

NEW YORK 3, N. Y.

5-AB-1

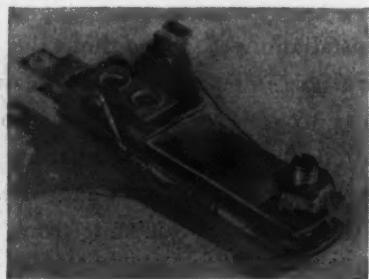
When inquiring specify CP9237 — see information request blank, pgs. 2-3

Page 20

INSTRUMENTS

Ambient Compensated Time Delay Switch Weighs $\frac{3}{4}$ Ozs.

Ruggedly constructed; heater windings are wound for 6-230 v.



six to two hundred and thirty volts. Heavy duty electrolytic silver contacts, available normally open or normally closed. The switch weighs only three quarters of an ounce. The overall dimensions are: $2\frac{3}{4} \times \frac{3}{4} \times \frac{5}{8}$ inches. Conveniently mounted with two 6/32 inch screws through eyelets having $\frac{1}{8}$ inch centers. It can also be built to individual specifications. Complete information on request.

GEORGE ULANET CO., Dept. CP, 88 East Kinney St., Newark 5, N. J.

When inquiring specify CP9238 — see information request blank, pgs. 2-3

SIMULTANEOUS ANALYSIS OF 4 GASES

CAMBRIDGE 4-POINT GAS ANALYSER provides simultaneous analysis and continuous graphic record of the amounts of O_2 , CO_2 , CO and H_2 in a sample of combustion products. Enables close control in metallurgical industry chemical processes, oil refining, kilns, inert gas producers and other combustion processes. Other gas analysing equipment available. Inquiries for special applications invited.

C A M B R I D G E G A S A N A L Y S E R S

Cambridge Instrument Co., Inc.

3732 Grand Central Terminal, New York, N. Y.

Send for descriptive bulletin.

When inquiring specify CP9239 — see information request blank, pgs. 2-3

Page 21

Better OIL-IMMersed STARTERS

EASIER INSTALLATION—Cast head with wiring manifold permits conduit entrance from five directions. Removable cover plate facilitates wiring.

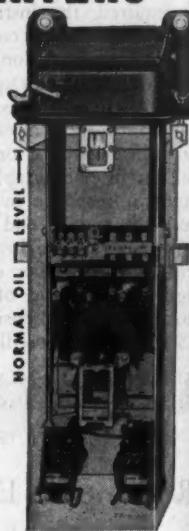
EASIER TO SERVICE—Welded seam tank, designed for minimum quantity of oil, has window-type oil gauge and drain cock recessed in bottom. Track-type guides simplify raising or lowering tank. Hooks support tank in lowered position for inspection.

EFFICIENT OPERATION—Automatic or hand reset, adjustable magnetic overload relays are available. Removal of combination starter tank automatically throws breaker to "off" position.

★ ★ ★

Two types of enclosure construction—Corrosion-Resisting and Explosion-Resisting. Either type furnished with:

1. Line voltage starters.
2. Circuit breaker combination starters.
3. Reversing starters.
4. Two speed starters.

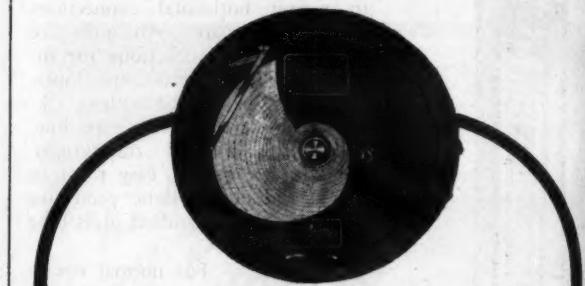


ELECTRICAL EQUIPMENT • KOLLMAN AIRCRAFT INSTRUMENTS

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

When inquiring specify CP9240 — see information request blank, pgs. 2-3



TIMED Automatic Control

For processes requiring pre-determined timing cycles, Foxboro Time-Cycle Controllers provide uniformly-exact, automatic operation. For example, in digesters they control the "cook" through successive periods at different pressures . . . in drying ovens, they control temperature and humidity on definite schedules.

Foxboro Time-Cycle Controllers are available for timed control of temperature, level, pressure, humidity or flow. Instrument control point is set by cams easily cut from inexpensive calibrated blanks.

Write for detailed Bulletin 241. The Foxboro Company, 134 Neponset Ave., Foxboro, Mass. U. S. A. Branches in principal cities of United States and Canada.

FOXBORO

TIME-CYCLE
CONTROLLERS

Reg. U. S. Pat. Off.

When inquiring specify CP9241 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

INSTRUMENTS

Direct Reading Dilatometer

Determines critical points of carbon steel, coefficients of expansion of metals, thermal compositions of steels, heating rates and heat saturation

Uses — Records temperature-dilation changes and temperature time changes simultaneously in ink during heating and cooling cycles of ferrous and non-ferrous metals, ceramics and other materials in solid form.

Description — The two records are made on a chart with rectangular coordinates for ease of interpretation and filing. The ball bearing multiplying mechanism exerts very light pressure on the sample and provides smooth accurate records of the temperature-dilation of the sample. The split furnace can be pulled away from the sample for quenching or cooling without disturbing the record. The inside dimensions allow the use of any size or shape of sample up to $1\frac{1}{8}$ inch diameter by 5 inches long. Furnace is designed for temperatures to 2500 F. Bulletin W1803 gives additional information on the Bristol-Rockwell Dilatometer Model A-134.

THE BRISTOL CO., Dept. CP, Waterbury, Conn.

When inquiring specify CP9242 — see information request blank, pgs. 2-3

Portable Vibration Fatigue Tester Features Automatic Cycling

Handles work up to 10 lbs.; especially suitable for plants making small electrical and mechanical parts

Uses — Handles parts or assemblies up to 10 lbs. in weight. Especially suitable for plants making small electronic, electrical and mechanical parts. Simulates service conditions, points out defects in design and construction materials and sometimes makes possible savings through elimination of excess weight.

Features — Vibration mechanism operates in an oil bath and is equipped with dual ball bearings. No water cooling system is required. Acceleration or rate of change in velocity is controlled automatically by a device which changes the frequency from 10 cycles per second to 55 cycles per second (600 to 3300 vibrations per minute) and back to 10 c.p.s. continuously and uniformly, the complete cycle requiring one minute. Adjustment can also be made manually, from 10-60 c.p.s.

Description — Vibration, in simple harmonic motion, is produced vertically. Table has area 8 in. x 8 in. and has drilled and tapped holes for attaching work. Powered by $\frac{1}{2}$ HP motor, 110 v., 60cy. A.C., split phase. Frequencies recorded on a sensitive electric tachometer. Maximum capacity is 37 g. (approx.). Bulletin 210 on request.

ALL AMERICAN TOOL & MFG. CO., Dept. CP, 1014 Fullerton Ave., Chicago 14, Ill.

When inquiring specify CP9243 — see information request blank, pgs. 2-3



COMPACT VIBRATION UNIT, 18 x 36 x 10 ins.

MAY - JUNE, 1944

SARGENT THERMO- REGULATORS



MERCURIAL TYPE, WIDE RANGE, SENSITIVITY, 0.01°

Sargent Catalog No. 50, limiting the current passed through the regulator to a few microamperes.

S-81835 THERMOREGULATOR—Mercurial, Wide Range, 0.01°, Sargent.

Total length, approximately 280 mm; diameter of reservoir, 15 mm; volume of mercury required, approximately 15 ml; sensitivity, 0.01°C . Without mercury.....\$15.00

BIMETALLIC TYPE, WIDE RANGE, SENSITIVITY, 0.5°

A rugged type regulator having a sensitivity of at least 0.5°C and with a range of adjustment from 0° to 250°C . The design is radically symmetric permitting insertion of the bimetallic helix through round holes of 1 inch diameter. The helix and regulator case are insulated from the electric circuit. This feature prevents corrosion by electrolytic action. A fine adjusting screw extends from one side of the case. Lead wires are connected inside the case, eliminating open binding posts and so conforming with insurance safety requirements.

This unit may be employed without relay to carry intermittent power loads directly across its own contacts to values not exceeding 3 amperes. Larger power



loads should be controlled through the use of a relay such as No. S-81855 described in Sargent Catalog No. 50.

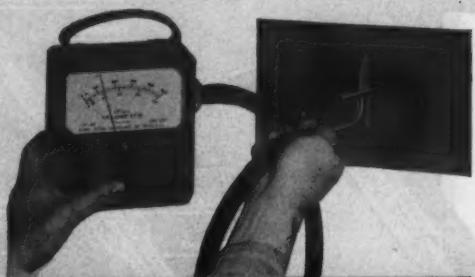
S-81825 THERMOREGULATOR—Bimetallic, Wide Range, 0.5°, Sargent.

Total length, 12 inches; length of narrow section, 10 inches; diameter of helix, $\frac{1}{8}$ inch.....\$15.00

E. H. SARGENT & CO., 155-165 E. Superior Street, Chicago 11, Illinois
Michigan Division: 1959 E. Jefferson, Detroit 7, Mich.

SARGENT
SCIENTIFIC LABORATORY SUPPLIES

When inquiring specify CP9244 . . . see information request blank, pgs. 2-3



Alnor VELOMETER

the direct reading air velocity meter

Air speed in feet per minute is read directly and instantly on the scale of the Alnor Velometer. Anyone can use this simple instrument—there are no calculations, no leveling, no timing, and no conversion tables. This convenient instrument allows quick checking of draft, leaks, velocities at air conditioning outlets, and any other air movement. Quick, accurate air velocity measurements give a valuable check on efficiency of equipment.

The Velometer is made in several standard ranges from 20 fpm to 6000 fpm, and up to 3 inches total pressure. Special ranges available as low as 10 fpm and up to 25000 fpm velocity and 30 inches pressure. Write for bulletin with complete data.

ILLINOIS TESTING LABORATORIES, INC.
430 NORTH LA SALLE STREET
CHICAGO 10, ILLINOIS

When inquiring specify CP9245 — see information request blank, pgs. 2-3

INSTRUMENTS

Hand Flow Valve Has Micrometer Dial, Pointer For Close Setting

Valve opening set to within 1/100th of a turn of handwheel; for pressure, temperature and flow in chemical and food processing



VALVE with micrometer dial and pointer.

Features. — Valve is equipped with a special micrometer dial and pointer which enables the operator to set the valve opening to within one hundredth of a turn of the handwheel. Valve has strong-wearing Acme threads on both the steam and bonnet.

Description. — Unit is a combination valve and flow control instrument, a hand operated valve with straight-line flow characteristics. Valve can be easily set and any setting can be instantly duplicated when desired. Each valve

Uses. — Close process control of steam, liquids, gases; can be used in place of conventional globe and angle valves on processes where accurate control is imperative; for control of temperature by throttling heating steam to dye jigs, size baths, pasteurizers, washers, retorts and kettles; for proportional mixing of liquids, such as water treating systems, refinery-oil blending lines, mixing chemicals and controlling fuel gas to stills, furnaces and dryers; for control of steam driven pumps and steam-oil atomization lines to burners, coolers and heater vents.

Re-usable Permocharts Increase Efficiency of Recording Instruments



★ Permocharts—flexible and waterproof instrument recording charts made of washable plastic—make industrial control more accurate, more efficient, more simple, and less costly.

In the long run, Permocharts cost less than paper charts (about one-fifth as much). Centers are reinforced with plastic washers to prevent deterioration from re-use. There are sizes available for any recording instrument which uses circular charts.

Re-usable Permocharts are available in white and three I-EZ colors—green, ivory, and blue; they are guaranteed for two years continuous service.

PRICE RANGES (F. O. B. Sewickley, Pennsylvania)
Up to 8" — \$1.50 each, up to 10" — \$2.00 each, up to 12" — \$2.50 each. Ink—2 oz. 70c; 8 oz. \$2.00
Minimum Order—3 Charts

Write for Literature and Quantity Discounts



PERMOCHART Company

545 CHESTNUT ROAD

When inquiring specify CP9247 — see information request blank, pgs. 2-3

Up-to-the-minute

WARTIME Thermocouple Information



Between the covers of this new 36 page Wheelco Thermocouple Data Book and Catalog, you will find a wealth of valuable information such as: recommended thermocouple substitutions under wartime conditions; what type of protecting tube to use for your application; temperature conversion tables; pipes and wire sizes; wire resistance; millivolt tables; decimal equivalents, etc.

BULLETIN S-2

Request your copy now!

Wheelco Instruments Company

841 W. HARRISON STREET

CHICAGO 7, ILLINOIS

Creators of "Electronic Principle" Temperature Controls

When inquiring specify CP9248 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW



Plan with SHELDON for Tomorrow

Out of today's war effort will come new and better materials, methods, and designs which will dictate the design and construction of laboratory equipment tomorrow. Sheldon, long a leader in producing laboratory, home economics, art and vocational furniture can help you meet the demands of tomorrow if you plan today. Let us discuss your post-war plans with your organization NOW.

Ask our Planning Engineers to call.

E. H. SHELDON & CO.
730 NIMS STREET MUSKEGON, MICHIGAN

When inquiring specify CP9246 . . . see information request blank, pgs. 2-3

INSTRUMENTS

is fitted with a scientific design v-port valve disc to insure proportional flow throughout the entire lift of the valve stem. Valve has shut-off seating surface entirely separate and removed from controlling v-ports. In bronze, forged steel, cast steel. Literature giving sizes, capacities on request.

HANCOCK VALVE DIV. (Manning, Maxwell & Moore, Inc.) Dept. CP, Bridgeport 2, Conn.

When inquiring specify CP9249 — see information request blank, pgs. 2-3

Thermometers for Food Labs & Plants

A large selection of thermometers for laboratory and plant applications are illustrated and described in a fifty-two page catalog. An unusual series of photos shows many of the important steps in the production of these instruments, emphasizing the care and precision necessary in their production. Each of the various models are illustrated, range and specifications are conveniently tabulated. Laboratory grade thermometers, for general testing, meat testing thermometers, inspectors pocket case thermometers for checking temperatures in refrigerators, etc., grain testing thermometers, incubator thermometers, milk sample thermometers, pasteurizing maximum registering thermometers and dough testing thermometers are all included. Catalog Number 44.

PAICHNEY INSTRUMENT CO., Dept. CP, Watertown, N. Y.

When inquiring specify CP9250 — see information request blank, pgs. 2-3

Dial Thermometer In 4 1/2 Phenolic Case For Remote Installation

Series of mercury actuated instruments in variety of bulb constructions and ranges



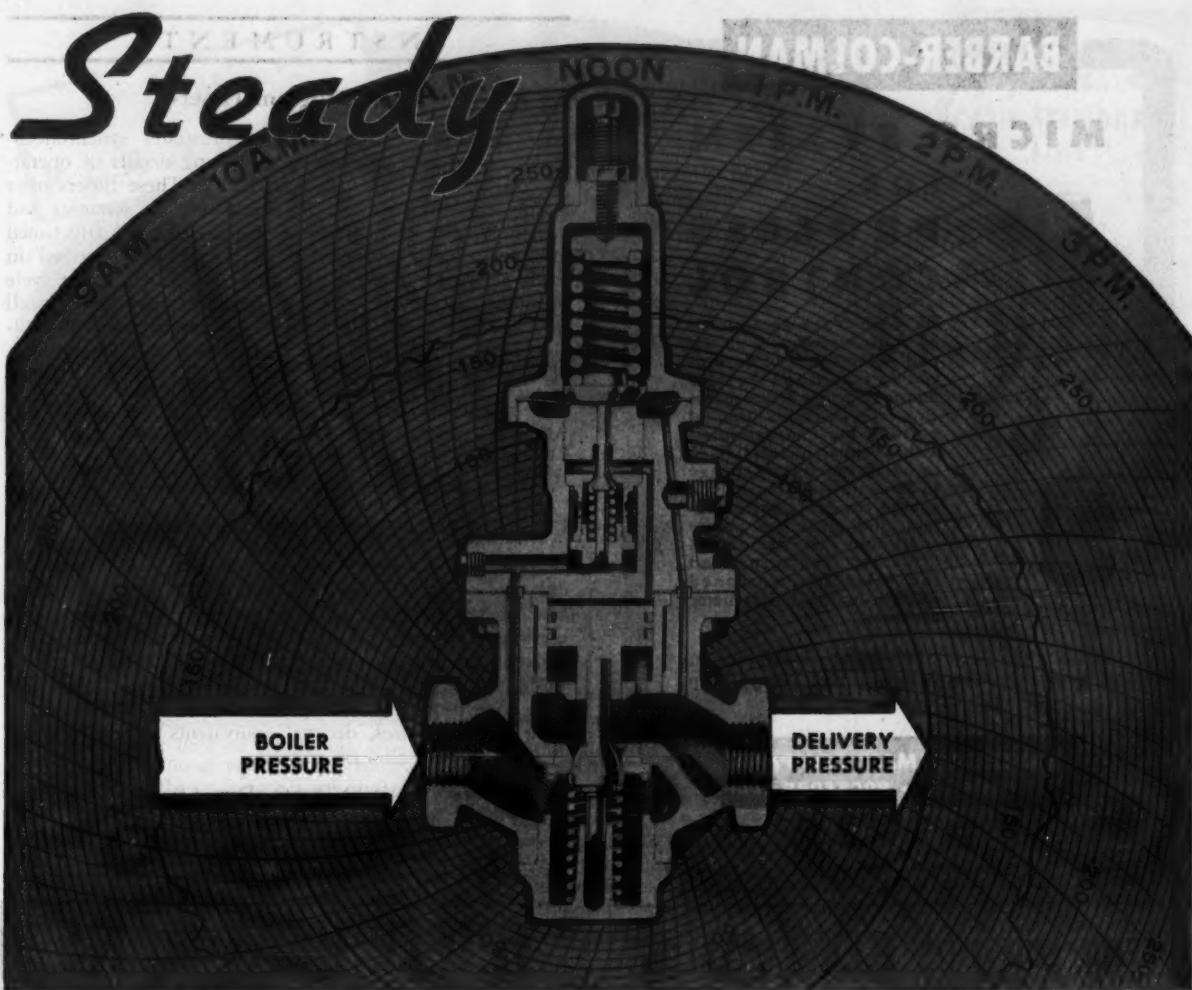
THERMOMETER'S PLASTIC CASE
...resists corrosion

Features — Phenolic case is resistant to corrosion and shock. Easy reading at a distance is assured by metal dial finished in black with figures in white. Well suited to installations requiring a long length of tubing between the bulb and the instrument.

Description — This series (53K) mercury actuated dial thermometer can be had with a wide variety of temperature-sensitive bulb constructions and is available in the following ranges: — 40° F to 120° F, 40° F to 220° F, 350° F to 550° F, 400° F to 900° F, — 10° F to 110° F, 80° F to 300° F, 300° F to 750° F, 30° F to 150° F, 50° F to 400° F, 200° F to 900° F.

TAYLOR INSTRUMENT CO'S., Dept. CP, Box 110, Rochester 1, N. Y.

When inquiring specify CP9251 — see information request blank, pgs. 2-3



Foster Type 37-G2 Standard Pressure Regulators

- Initial Steam pressures up to 1500 pounds
- Delivery pressures up to 600 pounds
- Total temperatures up to 900° F.
- Auxiliary (or pilot) operated
- Wide variety of spring ranges
- Alloys to suit pressures and temperatures

...with minimum maintenance. For instance, in one plant where twenty Foster Automatic Valves have been in service for fourteen years, no major repair jobs have yet been necessary. A few springs and diaphragms have been replaced, and valves have been ground according to schedule—but that's all.

And for scheduled maintenance, auxiliary valve units are INTERCHANGEABLE for all Type 37-G2 valves from one half to four inches, which greatly speeds routine replacements. Larger sizes also have this feature.

There are many other built in features which provide for quick servicing and checking of parts subject to wear. These features are illustrated in Foster Catalog 70, which also gives you answers to many of your regulation problems. In addition, our engineering staff will be glad to assist you with any special problems.

Illustrated catalog on the complete Foster line, with many pages of useful engineering data will be sent if the request is made on company letterhead. Simply ask for Catalog 70.

HELP SHORTEN THE WAR
BUY MORE WAR BONDS

FOSTER ENGINEERING Company

124 MONROE STREET • NEWARK 1, N. J.

PRESSURE REGULATORS...RELIEF AND BACK PRESSURE VALVES...AUTOMATIC STOP AND CHECK VALVES...ALTITUDE VALVES...DAMPER REGULATORS...FAN ENGINE REGULATORS...PUMP GOVERNORS...TEMPERATURE REGULATORS...LIQUID LEVEL CONTROLLERS...FLOAT AND LEVER BALANCED VALVES...NON-RETURN AND TRIPLE DUTY VALVES...VACUUM REGULATORS OR BREAKERS...SIGHT FLOW BOXES...STRAINERS...SAFETY VALVES...SIRENS

When inquiring specify CP9252 . . . see information request blank, pgs. 2-3

BARBER-COLMAN

MICRO SYSTEM FOR PROCESS CONTROL



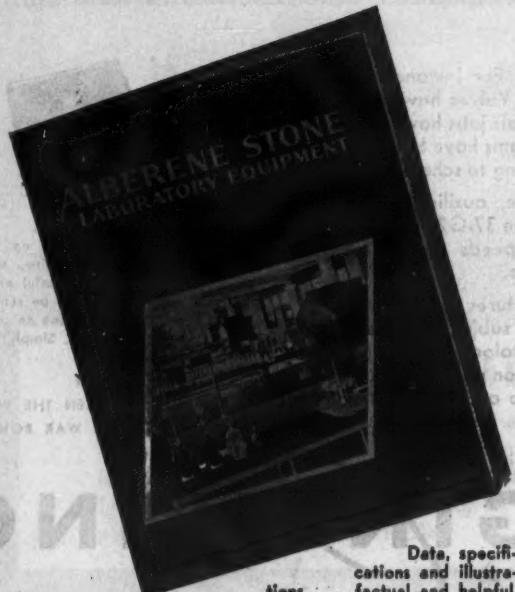
BY USING a solenoid-loaded contact tongue, with the pull of the solenoid governed by a rheostat on the valve motor shaft, the Microtherm (lower picture) is able to position the Proportioning Valve (upper picture) so as to satisfy exactly any change in demand. Features include simple construction, no relays, and maximum power at all points of valve stroke. "Hunting" is eliminated and the valve is positioned quickly with "micrometer accuracy."

Write for Bulletin
"CONTROLS FOR INDUSTRY"

BARBER-COLMAN COMPANY
1201 ROCK ST. • ROCKFORD, ILL.

When inquiring specify CP9253 — see information request blank, pgs. 2-3

SEND FOR THIS NEW CATALOG!



Data, specifications and illustrations . . . factual and helpful. . . . about Alberene Stone, the material that outlasts the building.

ALBERENE STONE CORP. OF VIRGINIA
419 4th Avenue, New York

When inquiring specify CP9254 — see information request blank, pgs. 2-3

INSTRUMENTS

Cam Program Timers

Four page folder describes and illustrates synchronous-motor-driven cam progress timer, giving details of operating principle and the types available. These timers offer a simple means of accurately controlling the sequence and duration of a series of three or more individually timed machine or process operations. Types are described in easily selected charts for providing continuous repeat cycle operations or stop-cycle timing functions; standard as well as special cams are illustrated and electrical contacts available in numerous styles are charted for simple selections. Standard cycles are available with fastest cycle of 3 seconds to lowest cycle of 2,560 minutes. Catalog B7.

AUTOMATIC TEMPERATURE CONTROL CO., INC., Dept. CP, 34 E. Logan St., Philadelphia 44, Pa.

When inquiring specify CP9255 — see information request blank, pgs. 2-3

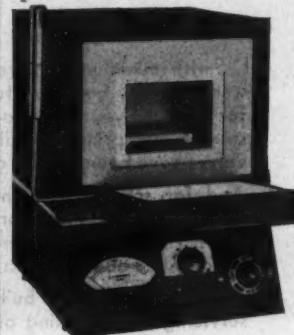
Current Data on Thermocouples

A thermocouple data book and catalog — a new and enlarged edition — devotes its thirty-six pages to description of products and recommendations for thermocouple users and suggests substitutes for restricted materials. It carries the latest amendment to WPB's Conservation Order L-134, and gives data on selection of thermocouples, lead wire protecting tubes, millivolt tables and tables on pipe and wire sizes, decimal equivalents and wire resistances. Bulletin S2-4 on request.

WHEELCO INSTRUMENTS CO., Dept. CP, Harrison & Peoria Sts., Chicago 7, Ill.

When inquiring specify CP9256 — see information request blank, pgs. 2-3

TRIPLE HEAT RANGE Processing FURNACE



0 to 1800° F.

or equivalent° C.

Rugged—Efficient—Low Cost
110 V. AC-DC Operation

HUPPERT Model 4 Furnace was designed and built to completely satisfy the needs of the Chemical Laboratory. Seven control points are provided in each of its three heat ranges (0-500° F., 500°-1000° F., and 1000°-1800° F.). Comes to heat fast and maintains temperature for precision work. Overall dimension 12" x 12" x 16" — work chamber 4 1/2" x 3 3/8" x 4 1/2". Complete with pyrometer, as illustrated — **\$74.25**

Write for Catalog of other Models.

K. H. HUPPERT CO.

6822 S. Cottage Grove Ave.
Chicago 37, Ill.

When inquiring specify CP9257 — see information request blank, pgs. 2-3

ANY-
ONE
CAN
OPERATE
IT

Send today for
full information
and prices.

DIETERT Moisture CONTROL

Will save you money
It is Quick and Accurate

For plant and laboratory use in the chemical, ceramic, food, foundry, paper, pulp, rubber, salt, sugar, textile and tobacco industries.

• The Dietert Moisture Teller determines moisture content accurately and rapidly by forcing electrically heated air through the test sample. Cost of operation is very low.



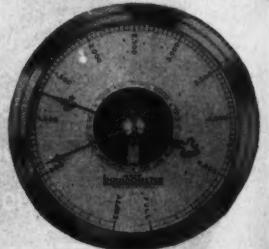
Harry W. Dietert Co.

9330 ROSELAWN

DETROIT 4, MICH.

When inquiring specify CP9258 — see information request blank, pgs. 2-3

ACCURATE LIQUID LEVEL INFORMATION AT A GLANCE, WHEN YOU WANT IT



WITH LIQUIDOMETER Tank Gauge "THEY'RE ALWAYS DEPENDABLE"

100% automatic.

No pumps, valves, or auxiliary units needed to read them.

Models available for either remote or direct readings.

Accuracy unaffected by specific gravity of tank liquid.

Approved by Underwriters' Laboratories for gauging hazardous liquids.

Write for complete details.

THE LIQUIDOMETER CORP.

38-18 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

When inquiring specify CP9259 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

INSTRUMENTS

Self-balancing Potentiometers

Redesigned self-balancing potentiometer is illustrated and described in bulletin just issued. This new model (431) has a universal wall or flush mounting case that is deeper than previous models and has an internal hinged panel on which are mounted pen and indicator drive mechanism and in the case of electric controllers, the control contacts or proportioning slide wire; in the case of air control, the complete new convertible-type air operated control mechanism. Horizontal wide band indicating scale replaces rectangular dial type. Bulletin P1200 describes in detail these and other new features.

THE BRISTOL CO., Dept. CP, Waterbury 91, Conn.

When inquiring specify CP9260 — see information request blank, pgs. 2-3

Boiler Ratio Meter Offers Great Ease of Operation and Quick, Accurate Reading

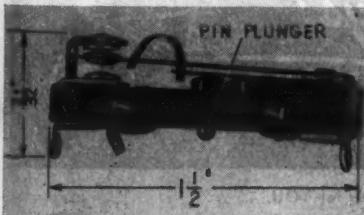
A new boiler meter of the steam-flow, air-flow type named the "ratio meter" is described in a bulletin just issued by the manufacturer. Among several advantages offered are: (1) the operator can establish the relation of air supply to fuel supply (measured by steam generated) most favorable to his particular operation by means of an easily adjustable cam in the air flow mechanism; (2) quick and easy reading is provided by a red indicating pointer operating across a white 10 inch scale, making it unnecessary to examine closely the position of the pens to determine whether the air is excessive or insufficient, as the movement of the pointer is three times as great as the differences between the pens. The steam flow mechanism is the maker's standard friction-free electric flow meter, operating on the null balance principle. Air flow mechanism is based on Hays slack diaphragm, equipped with an electric follow-up for ample power. Bulletin, "Double-Barreled Combustion Guidance," on request.

COCHRANE CORP., Dept. CP, 17th & Allegheny, Philadelphia 32, Pa.

When inquiring specify CP9261 — see information request blank, pgs. 2-3

Midget Switch Weighs Under 1 Oz.

Built on rolling spring principle; maximum dimension 1-1/2 in.; 9/16 in. wide, 7/16 in. thick



SWITCH for controls, tools

When built into relays smaller coils may be used as only 4 — 6 oz. operating pressure is required.

Description — All component parts are non-corrosive. The switch is designed for actuation from either the top or the bottom. Both the snap action spring itself and the center blade are made of beryllium, while the base is of bakelite. Furnished in single pole, normally open, normally closed and double throw with both pre-travel and over-travel provided.

ACRO ELECTRIC CO., Dept. CP, 1343 Superior Ave., Cleveland 14, Ohio.

When inquiring specify CP9262 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

PLAN
IN
PLANNING

Your

CONTINUOUS PROCESSES

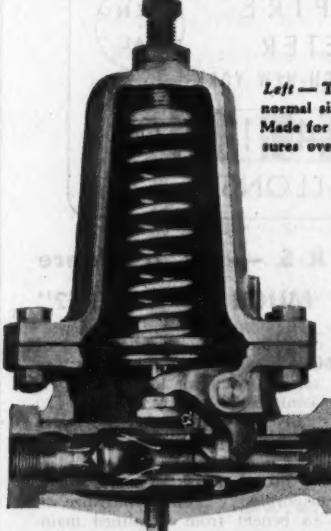
INCLUDE

STRAIGHT LINE FLOW Valve Advantages

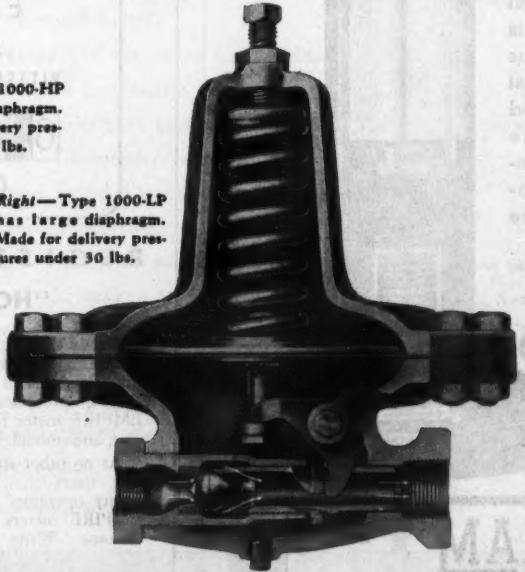
CASH STANDARD
Streamlined TYPE 1000
PRESSURE
REDUCING VALVES

Streamlined flow of steam, air, oil, etc., around the inner valve is an immediate solution to the important need of dependable control under varying loads.

Continuous processes can be dependably protected against slow downs, failures, and maintenance ordinarily due to valve inefficiencies. The STREAMLINED "1000" Valve with ample capacity, tight closing characteristics, close delivery



Left — Type 1000-HP
normal size diaphragm.
Made for delivery pressures over 30 lbs.

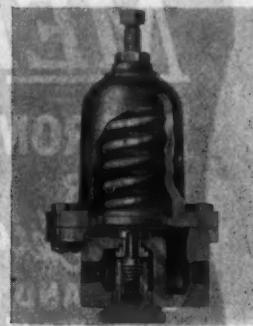


Right — Type 1000-LP
has large diaphragm.
Made for delivery pressures under 30 lbs.

CASH STANDARD
CONTROLS . . .
VALVES

A. W. CASH COMPANY
DECATUR, ILLINOIS

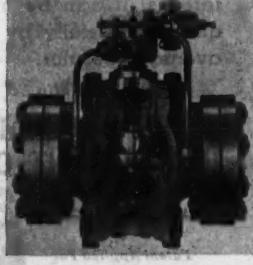
OTHER VALVES
from the
CASH STANDARD
LINE



High Pressure Reducing Valve
Type HP; extra heavy for use with initial pressures up to 5000 lbs.; and for reduced pressures up to 650 lbs. Good for most fluids. Sizes 1/2" to 2"; bronze body; nitroalloy trim. Get Bulletin 931.



Type 8871 Pressure Regulator for
dirty liquids (like Bunker C fuel
oil). Inner valve is belted to dia-
phragm for positive movement.
Sizes 1/2" to 10". Bodies: iron,
bronze, or steel. Seat ring and
inner valve: stainless steel. Bul-
letin 972.



Cash Standard Type 10 Pressure
Regulating Valve, pilot operated.
(Pilot operating fluid discharges
to outlet pipe; not wasted). Sizes:
2" to 12". Highest pressures:
inlet 600 lbs.; reduced 250 lbs.
Iron, bronze, or steel bodies;
standard trim. For water, air,
non-corrosive gases and oils. Get
interesting Bulletin 966.

When inquiring specify CP9263 . . . see information request blank, pgs. 2-3

Page 25

AND NOW THE
MERIAM
MICROMANOMETER
FOR
Checking AND
Calibrating
INSTRUMENTS

• This new, efficient instrument is used mainly for calibrating low pressure instruments and other devices. It can be employed also as a conventional manometer for reading pressures or vacuums.

Highly sensitive, the Meriam Micromanometer permits readings to plus or minus .301" water pressure. Most rugged, and unequalled in simplicity. Not the least complicated or mysterious, it can be handled successfully by the average operator.

Ask for Bulletin 25

**THE MERIAM
INSTRUMENT CO.**
10940 Madison Avenue
Cleveland 2, Ohio

Patent Applied For

MERIAM *
Instruments
ESTABLISHED 1911

When inquiring specify CP9264 — see information request blank, pgs. 2-3

Page 26



INSTRUMENTS

Durable Pressure Gauge — Stainless Steel Rotary Movement — Phenol Turret Case

A pressure gauge available with 4½, 6, 8½ inch dials and featuring a Phenol turret case is illustrated and described in twelve page bulletin. The gauge casing saves critical material without sacrificing strength. It will not burn and is not effected by continuous heat under 250°-300° F. The entire gauge system is easily removed from case as a unit. The double thickness glass is held in place by a snap ring. Thus, the effective dial diameter is larger than that of old style gauge of the same nominal dial size, the dial arc of the 4½ Duragauge being the same as the conventional 5 inch dial. The special rotary movement is of stainless steel. The various standard dials are illustrated and there are complete specification tables for selection of equipment for specific requirements. Catalog 1279 on request.

MANNING, MAXWELL & MOORE INC., Dept. CP, Bridgeport 2, Conn.

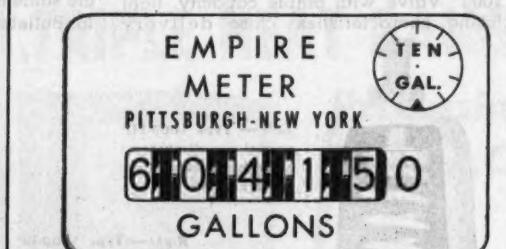
When inquiring specify CP9265 — see information request blank, pgs. 2-3

Automatic Proportioning of Fluids

Illustrated catalog presents practical suggestions on application of proportional feeding pumps. A large capacity schedule shows at a glance the maximum operating capacity in gallons per hour and discharge pressure in pounds per square inch of all these feeder pumps. Bulletin 1100 on request.

PROPORTIONEERS, INC., Dept. CP, 9 Codding St., Providence, R. I.

When inquiring specify CP9266 — see information request blank, pgs. 2-3



**REGISTERS — at a glance
"HOW MUCH — WHERE?"**

Under the impetus of greater efficiency demanded of American Industry, EMPIRE meters have paid their way into hundreds of new services wherever liquids are purchased, processed or consumed. Today there is an EMPIRE meter for virtually every liquid that flows in a size and model designed for your particular needs.

As no other single meter is offered in such a complete line, users . . . whether manufacturers, refiners, public utility operators or transporters . . . can standardize on EMPIRE meters and so benefit from simplified maintenance. Write for catalog.

Pittsburgh Equitable Meter Co.

NATIONAL METER DIVISION

400 N. Lexington Ave. Pittsburgh, Pa.

Empire METERS

When inquiring specify CP9267 — see information request blank, pgs. 2-3



- Investigate the Kewaunee "Cut-Cost" Plan of producing Matched Unit Assemblies.
- See how this Kewaunee Plan lowers equipment cost, increases working efficiency, insures modern streamlined appearance and permits your Laboratories to "grow gracefully."

KEWAUNEE MFG. CO.

C. G. Campbell, President

5011 S. Center St., Adrian, Mich.

Representatives in Principal Cities

When inquiring specify CP9268 — see information request blank, pgs. 2-3



PALMER will be ready for YOU.

There will be no "reconversion waiting period" for Palmer Thermometers.

While we are kept busy now, producing Thermometers for which there is yet a critical need, we are not unmindful of your Post War needs.

Palmer Thermometers that have withstood the stress of war duty will be much improved, retaining their fundamental tough quality and their extreme accuracy and sensitiveness for which they have been famous.

Remember PALMER Thermometers!

The PALMER COMPANY, Mfgs.

Industrial, Laboratory, Dial & Recording Thermometers

2519 Norwood Ave., Cincinnati, Norwood, O.—Canadian Plant: King & George Sts., Toronto

When inquiring specify CP9269 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

INSTRUMENTS

Electric Temperature Control Has Manual Reset Over-Heating Cut-Off

Automatically cuts off all current as soon as operating temperature is exceeded by 30° F in liquid or 50° F in air

Uses — Electrical temperature control.

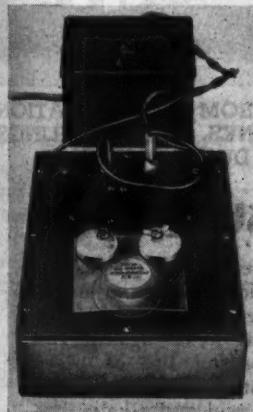
Description — Electric temperature control with manual re-set over-heating cut-off feature. The device consists of a standard model D 1 double pole, single throw switch which will automatically cut off all current as soon as operating temperature is exceeded by 30 degrees F in liquid or 50 degrees F in air due to negligence, or fusing of the thermostatically operated contacts, etc. During normal operation this control will break both sides of the line. In case of excessive temperatures, the safety contact, auxiliary switch, is broken on one side and this is sufficient to break the circuit to the heating element. The circuit is made through the contacts of the limiting device, or safety catch, which is not disturbed by normal operation and does not act, or operate, until excess temperatures create an additional movement (expansion) of the diaphragm and that movement raises the safety catch and causes contacts to separate. This break of contacts will occur even if the main contacts have become fused. A limit control without the temperature controlling mechanism is also available. Both devices are fully described in a bulletin available on request.

ROBERTSHAW THERMOSTAT CO., Dept. CP, Youngwood, Pa.

When inquiring specify CP9270 — see information request blank, pgs. 2-3

Compact Electrolytic Metal Marker

Quickly and permanently etches marking on smooth metal surfaces without use of acid



Uses — Permanently etching letters, numbers, trade marks, inspection symbols etc. on smooth metal surfaces without the use of acid.

Features — The part to be marked does not need any special preparation, nor does it require cleaning or neutralizing after being marked.

Operation — A drop of conductive solution, good for hundreds of impressions, is applied to a silver pad on which rests a celluloid stencil engraved with the mark to be etched. The part to be marked is placed on the stencil in contact with adjustable guide posts. The current is turned on by a slight pressure, one second being sufficient to produce a permanent mark.

Description — Device is compact unit, 2 x 6 x 9 ins. with a 110 v. AC transformer. Named "MET-L-ETCH", this marker is available in two models; one for flat surfaces, the other for marking the periphery of round parts.

ACME MARKING EQUIPMENT CO., Dept. CP, 2222 W. Fort St., Detroit 16, Mich.

When inquiring specify CP9271 — see information request blank, pgs. 2-3

MAY - JUNE, 1944



Are you passing up the advantage of PYREX brand Glass Piping because of uncertainty about joining it to existing lines and equipment of other materials? There is no need to, because standard adaptor connections are stock items for coupling PYREX Glass pipe to steel, cast iron, lead, stainless steel, porcelain, hard rubber and rubber covered metal.

Bring to your plant the advantages of resistance to all acids (except HF), and alkalies, resistance to thermal shock, transparency, smooth hard interior surfaces that minimize friction in fluid flow, and long service life. Chemical plants, drug, food and beverage manufacturers have found PYREX Piping indispensable to efficient and economical operation.

You can join PYREX Piping anywhere in your existing line. You can get good tight leakproof connections to whatever piping or equipment you are now using. Why not specify PYREX Piping for your next unit replacement? We are confident that once you experience the benefits of PYREX Piping you will follow a trial installation with a complete glass piping system.

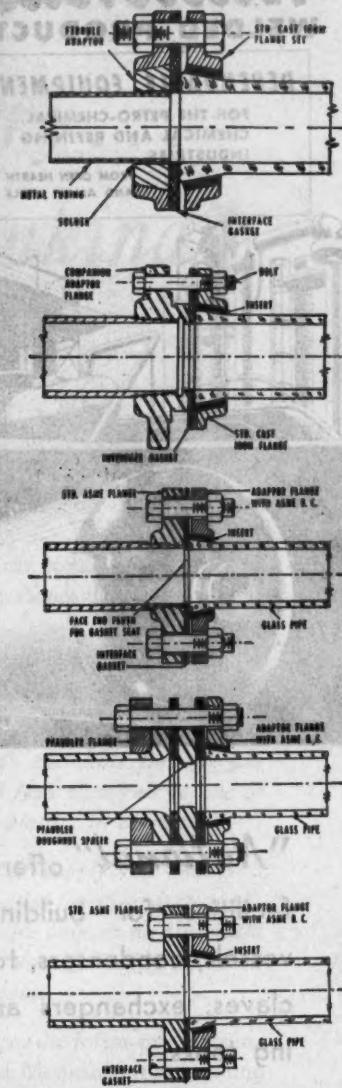
For complete details, use this coupon.

"PYREX" is a registered trade-mark and indicates manufacture by Corning Glass Works, Corning, N. Y.

CORNING
Glass Works
Corning, New York

Pyrex Industrial Glass

any equipment



Corning Glass Works, Industrial Div., Dept. CP4, Corning, New York.

Gentlemen:

I would like glass piping information immediately on the subjects I have checked below. I understand there is no obligation.

Installation Manual Valves Adaptors
 PYREX Piping and Heat Exchangers

Name.....

Firm.....

Street.....

City and State.....

When inquiring specify CP9272 . . . see information request blank, pgs. 2-3

National
WELDED PRODUCTS

DEPENDABLE EQUIPMENT
FOR THE PETRO-CHEMICAL,
CHEMICAL AND REFINING
INDUSTRIES

FROM OPEN HEARTH
AND ALLOY STEELS

"National" offers unexcelled facilities for building pressure vessels, condensers, towers, autoclaves, exchangers and processing tanks.

Production available Now —
our engineers are at your service.

National
ANNEALING BOX COMPANY
API-ASME Codes • Stress Relieving • X-ray
Pledged to Quality Since 1895
WASHINGTON, PENNA.

When inquiring specify CP9273 — see information request blank, pg. 2-3

New Materials

Propylene Glycol-Flavor Vehicle Plasticizer, Chemical Intermediate

Miscible in water, alcohol, other organic liquids, used in cosmetic, pharmaceutical manufacture

Uses — As a flavoring vehicle, as plasticizer and chemical intermediate for food processing. It serves as a humectant in bread, cake, confectionery, chocolate and many similar products. Good hygroscopic agent, moisture pick-up greater than glycerine and is used as softening, moistening agent; used in tobacco. Also as solvent and spreading agent in inks and dyes.

Features — It is a good vehicle for flavoring agents, since its mutual solvent properties permit the dissolving of synthetic flavoring materials and some essential oils, as well as dilution of these solutions with water. Due to its penetrating properties, these flavoring agents are carried into and distributed evenly through the materials to be flavored.

Description — Propylene Glycol N. F. (Dow) is a clear, colorless, practically odorless, slightly viscous liquid. It is miscible with a wide variety of solvents, water, alcohol, chloroform, acetone, and numerous other organic liquids. Specifications: specific gravity @ 25/25 C. 1.035-1.037; weight per gallon @ 25 C. 8.62 lbs.;

refractive index at 25 C. 1.4300-1.4310; distillation range (method 1, USP_x11) 1.B.P.-D.P. 185-190 C.; ash, not more than .007%; acidity (as acetic acid) not more than .0115%; chloride, not more than .07%; sulfate, no turbidity (method dilute 5 cc of propylene glycol with 15 cc of distilled water and add 5 drops of hydrochloric acid and 5 drops of Barium Chloride T.S.); heavy metals, not more than 5 p.p.m.; arsenic (As As₂O₃) not more than 2 p.p.m.; Assay (Periodic Acid Method) not less than 97.5% Racemic Propanediol - 1,2. The choice of propylene glycol for flavoring extracts and emulsions is best exemplified by vanilla formulations. The information on solubilities of Ethyl Vanillin, Vanillin & Coumarin are listed in tables in booklets containing technical information about this product. Its selection is desirable in many other types of flavors, even citrus oil emulsions, where it has been found to be satisfactory, if the compounding is done properly.

DOW CHEMICAL CO., Dept. CP, Midland, Mich.

When inquiring specify CP9275 — see information request blank, pg. 2-3

Conductive Coating Materials

Application and properties of conductive coating materials are given in recent bulletin. Containing silver powder, the coatings produce a surface of low electrical resistance



Experience has proved that coal-tar solvents are the most desirable for many difficult solvent problems. Neville has developed not only uniformly excellent solvents of standard distillation ranges, but also a number of new fractions. Neville offers a complete range of Coal-Tar Solvents to meet the widely varying requirements of Industry.

The grades, specifications and uses of these valuable solvents are fully described in this 40-page booklet. Write for your copy today.

THE NEVILLE COMPANY
PITTSBURGH • PA.
Chemicals for the Nation's War Program

BRONZOL • TOLYL • XYLOL • TOLAC • NEVOSOL • CREME COAL-TAR SOLVENTS
HI-FLASH SOLVENTS • COUMARONE-BORNE RESINS • GUAHRADINE NITRATE • TAR PAINTS
RUBBER COMPOUNDING MATERIALS • WIRE DRAWING PRIMERS • DIBUTYL PHTHALATE
EICHLERIN, PLASTICIZERS, NEUTRAL CROSSLINK, AND SHILOH STAIN OILS

When inquiring specify CP9274 — see information request blank, pg. 2-3



NO MORE DAMAGE FROM CONDENSATION OR SWEATING PIPES, TANKS, WALLS, CEILINGS AND AIR DUCTS



A SURE CURE

This sensational plastic cork coating prevents condensation drip from metal, concrete, brick, wood, plaster or composition surfaces. Permanently protects metal against rust and corrosion, thus prolonging life of pipes, tanks, etc. Forms a moisture-proof, insulation type coating impervious to acid and alkali.

Stucco-like finish requires no maintenance. A gallon covers about 30 feet of 1/2" pipe. Dries in 24 hours. Comes in 1, 5 and 55 gallon drums.

Immediate Shipment. Order from your Supply House.

FREE NoDrip Circular about Condensation Drip and its Prevention.

J. W. MORTELL CO.
Technical Coatings Since 1895
530 BURCH ST., KANKAKEE, ILL



When inquiring specify CP9276 — see information request blank, pg. 2-3

CHEMICAL PREVIEW

MATERIALS

and high conductivity. They are valuable for use in electrical condensers and other units employed in electrical circuits. Base materials to which they may be applied include glass, porcelain, steatite, plastics, wood, cloth, paper. Aging or exposure to sulfides encountered in many electrical applications has only a slight effect on their conductivity. Several different formulations of the new material are being produced, each designed to meet the requirements of different base materials and degrees of adherence and film toughness. The coatings are dull, metallic gray in appearance. A thermoplastic conductive cement is one interesting form, another is a conductive coated cloth and a third a flexible conductive film. Ceramic Products Bulletin — CC-1 — Conductive Coating Materials.

E. I. du PONT de NEMOURS & CO. (INC) Dept. CP, Wilmington 98, Del.

When inquiring specify CP9277 — see information request blank, pgs. 2-3

Coal Tar Chemicals

A pocket size book with attractive, spiral plastic binding contains the latest information on a varied line of coal tar chemicals. This booklet, which is a second and revised edition describes several by-products of coal tar that have recently been made available. Applications of products described include products used as intermediates in the preparation of dyes, as insecticides, fungicides, in manufacture of antiseptics, as tanning agents, in preparation of perfume materials, pharmaceuticals and in flavorings. A number of protective coatings for metal, tile, stone, concrete are described as well as carburizing compounds, creosote oil, disinfectant oils, pickling inhibitors. Several of the products listed were included in the previous edition and are now offered in higher purity than before, and others in pure form. Copy of the booklet is available upon request.

REILLY TAR & CHEMICAL CO., Dept. CP, Indianapolis, Ind.

When inquiring specify CP9278 — see information request blank, pgs. 2-3

Benzene Sulfonamide — Technical And Purified Grades

Limited laboratory and commercial quantities at present available and large quantities potentially available for important use

Uses — Although known for years, benzene sulfonamide has not found any large-scale uses. It is one of many old organic compounds having "undiscovered commercial potential." Unlike the acid amides, benzene sulfonamide reacts readily with aqueous alkalies to give reactive salts of marked interest in synthetic research. The compound exhibits many of the typical reactions of amines and is quite stable.

Description — Properties of benzene sulfonamide: Physical characteristics: Technical grade, light tan granular material with faint odor. Melting point 140-150° C. Solubility in water, approximately same as purified grade. Solubility in organic solvents approximately same as purified grade, purity 85-90%. Purified Grade: White crystals, almost colorless. Melting point 154-154.5° C. Solubility in water 0.25% at 10° C., 2.0% at 50° C., 25.0% at 100° C. Soluble in most of the ordinary solvents. Purity 98 — 100%. The technical staff of the corporation is ready to cooperate in any investigation that may be made into the properties and applications of this compound and will furnish samples on request.

WYANDOTTE CHEMICALS CORP., Dept. CP, Wyandotte, Mich.

When inquiring specify CP9279 — see information request blank, pgs. 2-3

ANOTHER STEP TO AID IN

"Serving Industry... Which Serves Mankind"

laboratory — one of the largest in this country devoted exclusively to advance industrial research

...PLUS nineteen Monsanto manufacturing plants in the United States and additional plants in England, Wales, Canada, Australia and Brazil — producing a range of commodities extending from heavy chemicals through fine pharmaceuticals and food chemicals to one of the widest ranges of plastics in existence

...PLUS facilities to supply raw materials for existing and potential forest-product applications that are possible only in an integrated operation such as that now afforded by the union of Laucks and Monsanto.

United for service to the forest-products industries, Laucks and Monsanto now are one — a single organization equipped to meet the needs of the splendid present and the even more promising future of the forest-products industries.



When inquiring specify CP9280 . . . see information request blank, pgs. 2-3

A double-barreled Insulation!



Eagle Super "66" Plastic Insulation is tremendously efficient because of the springy pellets of Eagle Mineral Wool that are its principal ingredient. "Springy Ball" structure is retained after the insulation is applied. Pellets contain countless "dead" air cells that do not break down—provide permanent heat-saving efficiency.

Permanent—All-Purpose—Reclaimable

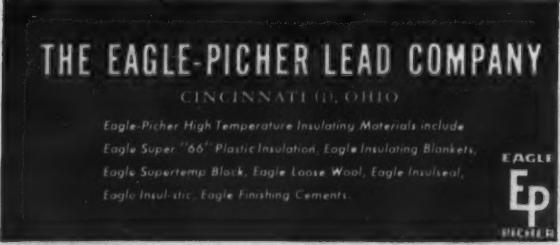
Because the mineral wool of which it is made is physically and chemically stable, Super "66" does not deteriorate or disintegrate. It can be applied to any heated equipment, withstands a full range of temperatures up to 1800° F. If not used at temperatures above 1200° F., Super "66" can be removed, remixed and reused! No special tools are required, and its exceptional workability means high coverage and low installation cost.

With Super "66" we recommend Eagle INSULSEAL, a tough, weatherproof coating that protects insulation from damage.

FREE MANUAL! Shows how insulation on a single Hot Storage Tank can save as much as \$800 a year in fuel costs. Provides convenient survey form for you to use in your own plant.

Write for your copy of this timely booklet and find out how you can save industrial heat and power with mineral wool insulation. Address Insulation Division, Eagle-Picher Lead Company, Cincinnati (1), Ohio.

Buy MORE War Bonds!



When inquiring specify CP9281 — see information request blank, pgs. 2-8

Page 30

MATERIALS

Chemical Method Prevents Mud, Soil Easily Stabilized

Resin compound added in small quantities imparts prolonged moisture resisting properties

Uses — As chemical method of preventing mud by waterproofing soil. Used on roads, landing fields, parking lots, athletic fields, driveways, irrigation canals and many construction projects.

Description — By mixing Stabinol, a resin compound, with the top few inches of soil, a waterproof surface is obtained. The water will drain off or evaporate, rather than seep through the treated soil and turn into mud. The product enables soil with which it is treated to resist penetration of surface water and also the capillary rise of moisture from below. A truck can move over roads so treated during or after a rainstorm without churning up mud or digging ruts in the road. A car splashing through a puddle on this type of road will kick up dry dust, not mud, behind it. Only fractional amounts of Stabinol are required, usually about one percent of the soil to be treated and the "stabilized" soil has the same appearance as the original dirt. It does not increase the load bearing capacity of the soil but it prevents the soil from getting wet and thereby losing its strength. In the announcement of this product it is stated that this stabilization will last for long periods. Roads laid down five years ago are still waterproofed. At the company's laboratories, complete soil studies are made. To chart moisture absorption, test cylinders of stabilized soil are submerged in water. Some of these stabilized samples at the laboratory have been totally submerged for ninety days or longer without having shown signs of softening into mud. Many stabilized soil cylinders, compacted to maximum density and only about two inches in diameter and not more than two inches high, will sup-



★ No matter how difficult your floor problems . . . no matter how unsuccessful other resurfacers have proved, we are confident Rock-Tred will put an end to your floor troubles — FOREVER. Over long periods, Rock-Tred has proved its durability on floors of all types, trucking aisles, ship decks, loading platforms and other areas. Contains no sand or stone. Will not crack or crumble. Takes heavier loads with ease. Will outlast the supporting sub-floor. Comes ready-mixed. Apply with a trowel. Sets quickly. Regular users read like the "blue book" of industry.

TESTING LABORATORY REPORT

Leading testing laboratory has endorsed Rock-Tred. Found it SPARK-PROOF, LOAD WORTHY, FIRE SAFE and NON-SKID. Write for a copy of this convincing proof of Rock-Tred superiority . . . it's yours for the asking.

SPEED PATCH for quick repairs! This fast-setting material allows busy plants to make their own floor repairs without interrupting regular operations. Simply fill broken areas with spark-proof Speed Patch and tamp solid. **TRUCK OVER IT IMMEDIATELY.** Comes ready-mixed. Any handy man can make expert repairs. Order today.

Representatives in Principal Cities

ROCK-TRED CORPORATION

605 W. Washington Blvd., Chicago 6, Ill.

When inquiring specify CP9282 — see information request blank, pgs. 2-8

New Turco Cleaner Improves Electroplating



Turco Prosolv B insures chemical and physical cleanliness essential to 100% bonding to steel of zinc, cadmium, chromium, etc. Removes all oil, grease, paint, smut, rust preventive compound. Contains no soap; leaves no deposit. Rinsing is complete, although parts may have dried.

This outstanding new material

may be used for still tank, anodic and cathodic cleaning, which simplifies plant procedure where both processes are employed.

Highly concentrated, completely soluble in hot or cold water, Turco Prosolv B is 100% active; there is no waste. Call the Turco Field Service Man, or write for Bulletin CP-5.



SPECIALIZED INDUSTRIAL CHEMICAL COMPOUNDS

Main Office and Factory: 6135 S. Central Ave., Los Angeles 1 • Southern Factory: 1606 Henderson St., Houston 10, Tex. • Chicago Factory: 125 W. 46th St., Chicago • Service-Men and Warehouse Stocks in All Principal Cities

When inquiring specify CP9283 — see information request blank, pgs. 2-3

To serve you better
GREENE, TWEED & CO.
has acquired the facilities of
ASBESTOS FIBRE SPINNING CO.

GREENE, TWEED & CO., manufacturer of PALMETTO and other Self-Lubricating Packings, announces that it has acquired the facilities of THE ASBESTOS FIBRE SPINNING CO. of North Wales, Pa., manufacturer of asbestos textiles. The combined facilities of the large modern plants of these two concerns are now united under a single management. All processes involved in the manufacture of asbestos packings and asbestos textiles are completely controlled — from raw material to finished products. Single management assures supplying your requirements for the high quality products shown at the right.



All correspondence should be addressed to
GREENE, TWEED & CO.
Bronx Blvd. at 238th St., New York 60, N. Y.

GREENE, TWEED & CO.
BRONX BOULEVARD AT 238th ST., NEW YORK 60, N. Y.

When inquiring specify CP9284 — see information request blank, pgs. 2-8

CHEMICAL PREVIEW

MATERIALS

port the full weight of a man after having been totally submerged for long periods. It is effective in a wide range of natural soils. The quantity of the resin is small and the material is inexpensive. It is added as a dry powder and is readily spread and mixed with ordinary road equipment. Soils which have been mixed can be stockpiled and reprocessed without loss of effectiveness. It is particularly adaptable to soils with relatively high silt or clay content. An illustrated booklet giving a comprehensive presentation of this product and its applications is available on request.

HERCULES POWDER CO., Dept. CP, Wilmington, Del.

When inquiring specify CP9285 — see information request blank, pgs. 2-3

Label Adhesive For Cold Brush Application To Fiber, Paraffine

Also for use on wood, metal, paper containers; dries to water insoluble film

Uses — As a brush applied labeling adhesive for applying paper labels to fiber, wood, paper, metal and paraffine surfaces.

Features — It is liquid form for application cold. It sticks quickly and is water insoluble when dry. Sticks revenue stamps on paraffine coated beer cases.

Description — Resin emulsion adhesive which dries to insoluble film.

H. B. FULLER CO., Dept. CP, 255 Eagle St., St. Paul 2, Minn.

When inquiring specify CP9286 — see information request blank, pgs. 2-3

Substitute For Plasticizers For Cellulose Acetates

Can replace up to 50% of the usual expensive plasticizers for cellulose acetate

Uses — Relief of the shortage of extremely critical materials forming the usual plasticizers for cellulose acetate. This substitute (PHO) can replace up to 50% of the usual expensive plasticizers for cellulose acetate, such as triacetin and the phthalic and phosphoric esters, all extremely difficult to obtain under present restrictions.

Description — It is a viscous, resinous liquid, so that the total plasticizing oil content of PHO made compositions is somewhat higher than when the ordinary plasticizers are used alone. These plasticized compositions are being used as injection molding compounds for small industrial molded pieces, insulation parts, and for consumer articles such as pens, pencils, combs and the like. Also when dissolved in solvents as lacquers. One outstanding improvement is cellulose acetate compositions brought about by the use of PHO is the reduction of water permeability either as a liquid or as a water vapor. Cellulose acetate is one of the more water permeable film forming materials, and the reduction of this characteristic brought about by PHO opens new uses for this cellulose derivative. Cellulose acetate when highly plasticized with PHO with or without the usual plasticizers, yields tough rubbery solids which can be calendered into sheets, or used as thermoplastic adhesives. These are characterized by flexibility over a wide range of temperatures. Backing for felt and gasket materials are among the many uses for such solids.

NEVILLE CO., Dept. CP, Pittsburgh, Pa.

When inquiring specify CP9287 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

CITRIC ACID AS AN AID IN SAVING HUMAN LIVES

The dramatic story of the lives saved among our battle casualties by means of blood plasma is too well known to need repeating. It may not be, however, a matter of common knowledge that Sodium Citrate, produced from Citric Acid, is used in preparing every pint of this life-saving plasma.

Those who have donated their blood to the Red Cross (which we hope includes or will include all who read this) may have noticed that the flask, into which the vital fluid was drained, contained a small amount of a clear liquid. This was a solution of Sodium Citrate which had been carefully filtered and sterilized to insure absolute freedom from any foreign organisms.

Ordinarily this donated blood would clot in a short time, rendering it useless for plasma production. The Sodium

Citrate, however, prevents this clotting and permits the separation, even after many hours of storage, of the white and red corpuscles which comprises the first step in the preparation of plasma.

Even with millions of pints of plasma being produced, the consumption of Sodium Citrate is small compared with that of other uses to which this salt is put, but there is no question that this is its most important field of usefulness.

We are the leading producers of Sodium Citrate, both U.S.P. XII containing two, and VIII containing five and one-half molecules of water of crystallization. Both salts are of equal purity and must meet our own rigid specifications, as well as those of the U. S. Pharmacopoeia.

Chas. Pfizer & Co., Inc., 81 Maiden Lane, New York 7, N. Y. or 444 W. Grand Ave., Chicago, Ill.



Chemicals For Those Who Serve Man's Well-Being

MANUFACTURING CHEMISTS • ESTABLISHED 1849

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS



When inquiring specify CP9288 . . . see information request blank, pgs. 2-3

Page 31



PYROFLEX "Baby" Tower, a big HCL producer

IT WAS dubbed a baby tower by the Knight organization because it was so small. Actually, it will do a lot of work for its size. It is designed to make 500 lbs. of 36% HCl per hour from 50% gas.

Pyroflex construction is not a pile of bricks or a lining. It is a completely designed functional unit. Each unit has the strength of steel and the corrosion resistance of ceramics.

Knight engineers have created many types and kinds of Pyroflex functional units to do specific jobs. Many of them provided the first satisfactory solution to tough problems.

Knight engineers' wide experience in this field is always available to help you solve your own special problems. In writing, please give us complete details.

MAURICE A. KNIGHT
405 Kelly Ave., Akron 9, Ohio

When inquiring specify CP9280 — see information request blank, pgs. 2-3

MATERIALS

Technical Data on Mineral, Vegetable Waxes For Creams, Polishes, Pastes, Coatings, Sizings

Technical bulletin on mineral and vegetable waxes discusses selection of substitutes, replacements and extenders under prevailing shortages and curtailments. It lists many of the commoner waxes and additional substances that may serve in the absence of materials unavailable. A selection of mineral waxes are described and specifications listed. Stability against aging and oxidation are emphasized and relatively high melting points (140-190° F). Many of these waxes are said to be available without restriction. These domestic ozokerites and ceresins are valuable in the preparation of water free creams, massage creams, pomades, deodorants, bleaches and lipsticks. The selection offers waxes for floor, shoes and leather paste polishes, paper coatings, paints, lacquers, wax crayons, waterproofing compounds. Vegetable waxes are also described and specifications listed. They may also be used in many of the previously mentioned products, are available and in many cases are being used without change of formula or effect. Featured in this bulletin are Wax No. 4 — saponification value 73.5, acid value 13.7, color, light yellow, ester value 59.8, melting point 175/180° F; No. 32 — saponification value 77.5, acid value 10.5, color, light yellow, ester value 67, melting point 180/185° F; No. 33 — saponification value 63, acid value 8, color, light yellow, ester value 55, melting point 180/185° F. Copy of bulletin on request.

DISTRIBUTING & TRADING CO., Dept. CP, 444 Madison Ave., New York 22, N. Y.

When inquiring specify CP9290 — see information request blank, pgs. 2-3

*Requisition
for ECONOMY
Specify
PYREX WARE
BRAND*



TIME has emphasized the economy of Pyrex brand Laboratory Glassware in schools and colleges. Over the years both department heads and school purchasing executives have proved that Pyrex test tubes, beakers and flasks have longer life and greater usefulness.

In this wartime year when tools of every kind must last longer, be sure you specify Pyrex Laboratory Ware on your requisitions. It is the one glassware that is balanced for mechanical strength, chemical stability and heat resistance.

Consult your laboratory supply dealer; work with him—he is a good man to know.

CORNING GLASS WORKS • CORNING, N. Y.

When inquiring specify CP9291 — see information request blank, pgs. 2-3



PROTECT IT WITH *Paragon* { **TIME DELAY RELAYS**

NOTHING is more vital to the war production program than electrical equipment. Guard it with Paragon automatically reset, synchronous motor operated 800 series time delay relays, which:

1. Protect rectifiers and tube filaments from application of plate current before filaments are preheated.
2. Accurately control the various steps of motor acceleration.
3. Dependably delay the closure of elevator control circuits.
4. Stagger the closure of multiple circuit systems so that full load will not be applied at start.

Accuracy of the time cycle and operation of the timer not affected by changes in ambient temperature or vibration. Designed for panelboard mounting or may be mounted to standard handy box or single gang switch box.

**PARAGON
ELECTRIC CO.**
33 W. Van Buren St.
CHICAGO 5, ILLINOIS

Paragon Chicago
MANUFACTURERS OF ELECTRICAL EQUIPMENT
SINCE 1911

When inquiring specify CP9292 — see information request blank, pgs. 2-3

**THE SOLUTION FOR A-THOUSAND-
AND-ONE HEATING PROBLEMS**

G-E CALROD HEATERS

(one of the popular G-E midget heaters)

The most widely used midget heaters on the market — use them for contact heating of metal surfaces, direct immersion in oil, alkaline baths, soft metals such as lead and solder. Cast them into iron and aluminum, or use them for industrial ovens, hot plates, etc. Extremely durable and efficient. Can be bent to almost any shape. Wide choice of sheath materials. For temperatures up to 1200 F, and a special, high-heat type for up to 1500 F. **PRICES FROM \$3.30.**

SEND FOR GED-650

This catalog will give you the complete story on Calrod heaters and other G-E midget heaters; also information to help you select quickly the midget heater or heating device best suited to your needs.

**OTHER G-E HEATERS: FIN CALROD HEATERS. CALROD IMMERSION HEATERS. CARTRIDGE HEATERS. STRIP HEATERS. IMMERSION HEATERS. CONVECTION HEATERS. HEATING CABLE.*



GENERAL ELECTRIC

When inquiring specify CP9293 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

MATERIALS

Permanent Ink For Glass, China

Uses — In photographic laboratory it can be used to identify negatives, lantern slides, etc. In biological laboratories, it can be used to mark microscopic slides previous to immersion in strong solutions. In the paint and varnish laboratory it is used to identify Gardner-Holt tubes or P.R.C. Viscosity tubes. In other shops it is used as a permanent marking for reagent bottles. By using the ink on electric light bulbs, it is possible to indicate the date of purchase, source, quantity and owner. Some laboratories use this ink to fill the graduation marks in their thermometers. By addition of a small amount of glycerine, it is possible to use the ink with a rubber stamp. **Description** — No special applicators are required. The ink is non-corrosive, non-poisonous and non-inflammable. Special wax containers are not necessary and the ink may be kept in cans or bottles. After the ink has dried, it is not effected by any of the common solvents such as alcohol, acetone, turpentine, toluene, ethylene dichloride, carbon tetrachloride, ether or chloroform. It also resists the action of severe corrosive agents such as sulfuric acid, hydrochloric acid, nitric acid, sodium hydroxide (lye) salt solution and soapy water. Product is named "GLINK."

STEWART RESEARCH LABORATORIES, Dept. CP, Franconia, Alexandria, Va.

When inquiring specify CP9294 — see information request blank, pgs. 2-3

Air-Drying Insulating Varnishes

Air-drying insulating varnishes for use in manufacture and care of electrical equipment are described in detail in four-page bulletin. Two of these, especially suitable for electrical and radio use, dry in 30-60 minutes depending upon application, dip, brush, or spray; one dries to mahogany finish, the other to glossy black. Clear finishes are also offered. In addition to these insulating materials, stripping compounds, balancing compounds and commutators are also available.

STERLING VARNISH CO., Dept. CP, 129 River Rd., Haysville, Pa.

When inquiring specify CP9295 — see information request blank, pgs. 2-3

Synthetic Wax Increases Salt Spray Resistance of Varnish

Does not retard drying properties of lacquer or varnish; improves flow-out

Uses — Increasing salt spray resistance and moisture proof property of lacquers and varnishes.

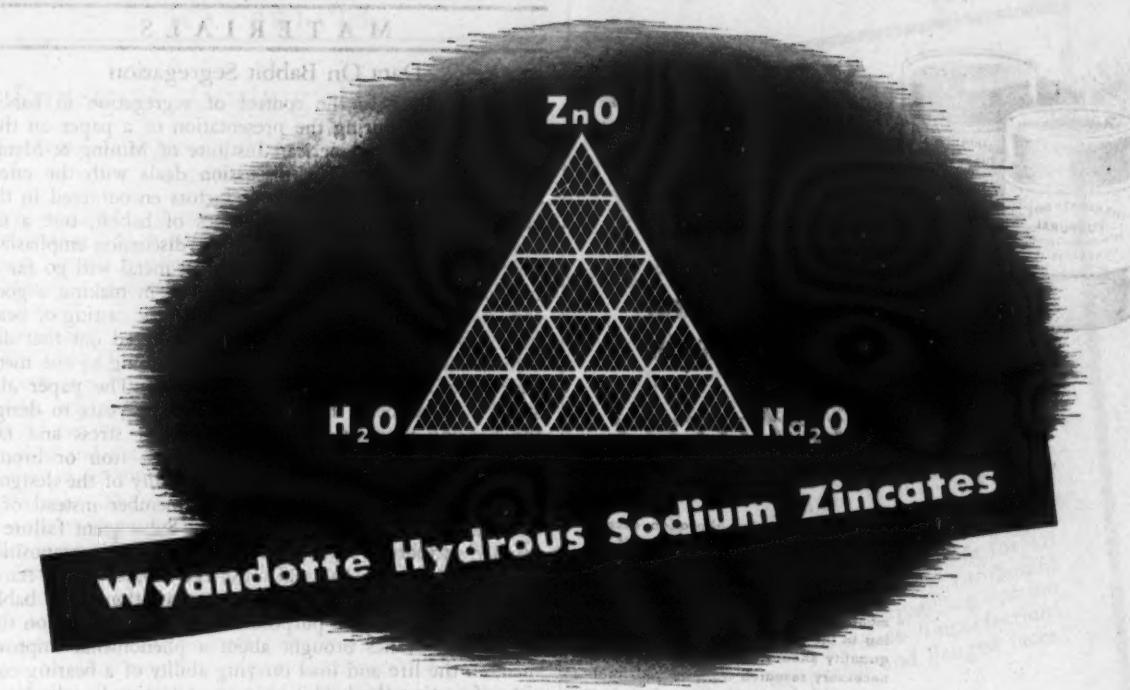
Features — Does not retard the drying properties of the lacquer or varnish; also improves flow-out and helps pigment suspension.

Description — One half of one per cent of this wax powdered, incorporated into a 28% solids urea formaldehyde alkyd modified clear baking varnish, gives film on a steel panel, which after baking at 300° F for thirty minutes resists a concentrated salt spray (20%) at 100 F for 114 hours. Wax should be treated as a pigment and ground into the resin with part of the solvent. The clarity of the varnish is unaffected. Additional information on Acrawax C on request.

GLYCO PRODUCTS CO., Dept. CP, 26 Court St., Brooklyn, N. Y.

When inquiring specify CP9296 — see information request blank, pgs. 2-3

MAY - JUNE, 1944



CHEMICALS WITH *U.C.P.

After years of research and development by Wyandotte, laboratory samples of the various hydrous sodium zincates are available and commercial quantities of several of the zincates can be made available for important uses. All of the hydrous sodium zincates are potentially available in large quantities. Chemicals of "undiscovered commercial potential," they have promise of immediate important commercial functions, such as:

- Purification of water supplies.
- Boiler water treatment.
- Clarification of cannery and other industrial waste waters.
- Basis for colloidal suspensions of zinc oxide or zinc hydroxide.
- Source of zinc in zinc-plating operations.

Wyandotte Chemicals' technical staff is always ready to talk over with you the properties and applications of hydrous sodium zincates. Users of alkalies may find it profitable to investigate the possible benefits of these chemicals in their processes.

**Undiscovered commercial potential.*

PROPERTIES OF HYDROUS SODIUM ZINCATES

CHARACTERISTICS: White to light gray or brown; flakes, granules or powder. The more alkaline zincates dissolve in water without decomposition but the less alkaline forms hydrolyze to colloidal zinc hydroxide or oxide. All ratios may be dissolved without decomposition in suitable alkaline solutions. Solutions precipitate and flocculate traces of calcium, magnesium, iron and other metals from solution.

RANGE OF COMPOSITIONS: $\text{Na}_2\text{O} : \text{ZnO}$ ratios from 100:1 to 2:1. Combined water content approximately $\frac{1}{2}$ zinc oxide content by weight.

WYANDOTTE CHEMICALS CORPORATION • Michigan Alkali Division
WYANDOTTE, MICHIGAN OFFICES IN PRINCIPAL CITIES



Soda Ash • Caustic Soda • Chlorine • Bicarbonate of Soda • Calcium Carbonate • Calcium Chloride • Dry Ice • Aromatic Intermediates • Hydrogen

When inquiring specify CP9297 . . . see information request blank, pgs. 2-3

Page 33



YOU CAN HAVE
as much as two drums of Furfural per Month

Furfural

Furfural is under allocation according to the terms of W.P.B. Order M-224. Many, however, are not familiar with the fact that this order permits the purchase of as much as 2 drums per month without the formality of applying to the War Production Board. This quantity should prove adequate for all necessary research work on your problems and in many cases has been enough to carry on pilot plant work.

The demand for Furfural is such that it is not expected that it will be freely available for quite some months to come. However, those who are working today with an eye to their future chemical requirements will do well to investigate the possibility of using Furfural in their work.

The pieces where Furfural can and is doing a good, efficient, and economical job are many. The principal user is still the lubricating oil industry where Furfural is used to extract the unsaturated and sludge forming entities, making a lubricating oil of high quality. Its efficacy in that respect is attested to by the fact that in the past year two more refineries using Furfural have gone on stream. The second largest user is the resin industry where advantage is taken of the fact that the aldehyde Furfural reacts with phenolic compounds to form resins of valuable properties. The grinding wheel industry also uses large quantities of Furfural as a solvent, plasticizer, and wetting agent in the manufacture of resinoid bonded wheels.

There are many other miscellaneous uses for Furfural involving its aldehyde properties, use as a general as well as a selective solvent, and an aid in the adhesion of bonding agents other than in grinding wheels.

Furfural is an interesting and versatile chemical. If you are not familiar with its properties, why not write today for information? It may be just the thing to solve your problems.

The Furans

FURFURAL
FURFURYL ALCOHOL
TETRAHYDROFURFURYL
ALCOHOL
HYDROFURAMIDE

Write for this
Free Booklet



The Quaker Oats Company

TECHNICAL DIVISION, 11-5
141 W. Jackson Blvd.
Chicago (4) Illinois

When inquiring specify CP9298 — see information request blank, pgs. 2-3

MATERIALS

Data On Babbitt Segregation

Facts pertaining to the control of segregation in babbitt were discussed during the presentation of a paper on this subject before the American Institute of Mining & Metallurgical Engineers. The discussion deals with the effect of temperature and other major factors encountered in the handling of two well known types of babbitt, one a tin base and the other a lead base. The discussion emphasizes that "to recognize that babbitt is a cast metal will go far in controlling the segregation experienced in making a good serviceable bearing." The method of static casting of bearings also receives attention and it is pointed out that due consideration must be given to the designing of the metal backing against which a babbitt is cast. The paper also states, "It has been the practice for many years to design the backing to meet the requirements of stress and fits. Most of these backs are made of steel, iron or bronze which gives unlimited play to the ingenuity of the designer in making this shell act as a stress member instead of a backing to hold the babbitt in place. Subsequent failure is usually attributed to poor babbitt or the wrong composition of babbitt, whereas, the real cause for failure can be traced back to segregation. Without segregation, the babbitt would amply serve its purpose." One simple solution that in some cases has brought about a phenomenal improvement in the life and load carrying ability of a bearing consists of casting the babbitt on a separate simple cylinder of uniform cross-section, using it as an insert in the bearing cap. Reprints of the complete paper referred to here are available on request.

COOPER-BESSEMER CORP., Dept. CP, Mt. Vernon, Ohio.

When inquiring specify CP9299 — see information request blank, pgs. 2-3

Giving Longer, more Efficient Service
ALUNDUM WARE



Its refractoriness permits ALUNDUM Laboratory Ware to be washed and ignited to constant weight after a filtration, thus allowing the devices (dishes, cones, crucibles, discs, thimbles) to be used repeatedly. ALUNDUM (Al_2O_3) Ware is chemically inert and available in high, medium and low permeabilities.

NORTON COMPANY, Worcester 6, Mass.

Norton Laboratory Ware

When inquiring specify CP9300 — see information request blank, pgs. 2-3

"The best pump buy we ever made!"

Above statement was made recently by a chemical process plant executive, referring to a Taber Vertical Pump. Why? Because, he says, we first made recommendations to suit the job instead of "just selling" a pump... AND because of the following Taber design features:

- 1 Deeper stuffing box that seals better against vapor or gases of Chemical Solutions.
- 2 Stuffing box kept out of liquid. Repacking interruptions are reduced to a minimum.
- 3 Longer bearings to compensate for non-lubricating properties of liquids or other Chemical Solutions pumped.
- 4 Larger shaft diameters that prevent damaging vibration.

WRITE FOR NEW BULLETIN V-837

TABER PUMP CO. (Est. 1859)
320 ELM ST. 5405 BUFFALO, N. Y.

When inquiring specify CP9301 — see information request blank, pgs. 2-3

IS YOUR PROBLEM ONE OF
Speeding Carloading or Unloading?



Industrial Trucks have revolutionized carloading and unloading methods. Our files contain hundreds of case histories in which Baker Trucks have reduced time, cost and manpower on these operations to a fraction of former methods. If you have a problem of car or truck loading or unloading, you can profit from the experience of others by consulting the new Baker Catalog, a large part of which is given over to actual installation stories.

Write for your copy of the
new Baker Catalog

Any executive concerned with material handling will find this book a valuable source of information. Write for your copy today.



BAKER INDUSTRIAL TRUCK DIVISION of the Baker Raulang Co.
2163 WEST 25th STREET • • CLEVELAND, OHIO
In Canada—Railway and Power Engineering Corporation, Ltd.

Baker INDUSTRIAL TRUCKS

When inquiring specify CP9302 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

Corrosion Resistant Equipment

HAVEG—molded plastic NON-metallic equipment provides corrosion resistance of a high degree to most acids, salts, the weaker bases and many solvents. Its resistance to chemicals is not just a surface condition since HAVEG is of itself a constructional material. Solid HAVEG tanks can be made as large as 10 feet in diameter by 12 feet in depth, in seamless, one piece units.

Write for Bulletin F-3

This Bulletin gives complete chemical, mechanical and constructional data on all types of standard and special HAVEG equipment: Tanks, Towers, Pipe and Fittings, Valves, Pumps, Trays, and many other items are all fully illustrated with photographs or drawings.



When inquiring specify CP9303 — see information request blank, pgs. 2-3

Corrosion-Proof TYGON PAINT FOR LASTING PROTECTION



TYGON paint will lengthen the usable life of any equipment subject to the action of corrosive fumes, condensates or spillage.

Such items as blowers, dust collectors, pumps, chemical storage equipment, pickling and plating tanks—all will last longer and require less frequent repair when protected with TYGON paint.

Laboratory tests prove that TYGON paint possesses the greatest general resistance to corrosive attack of any paint made.

Write today for Bulletin 1010
PROCESS EQUIPMENT DIVISION
THE UNITED STATES STONWARE COMPANY
AKRON, OHIO

When inquiring specify CP9304 — see information request blank, pgs. 2-3

MAY-JUNE, 1944

MATERIALS

Protective Coating For Plastics

For use in airplane fabrications and other plastic assembly operations

Uses — Used to guard plastic surfaces in airplanes during fabrication. Such surfaces include window lights, instrument panel plastic installations: Methyl Methacrylate, "Plexiglas," Lucite," Cellulose acetate, laminated safety glass etc.

Description — A liquid coating, this product (PROTECTO-KOTE) dries rapidly forming a protective coating against scratching and abrasion. It is impervious to grease, paints and paint solvents. In use the entire piece of plastic can be dipped into a tank containing the coating, drained and then allowed to dry. It can also be sprayed. Coverage is 200 square feet per gallon and one coat is sufficient. The product saves time and its transparency is an advantage, permitting easy inspection of plastic and allowing light to enter interior of plane during assembly. It is water soluble and easily removed. No cleaning or polishing or plastic is necessary after removal. It does not cause crazing. Plastic covered with this coating can be stacked and handled without use of flannel protecting cloth or other means of protection between the pieces. It can be used in other industrial operations involving the handling of plastic surfaces during fabrication. Complete information on request.

RESERVE RESEARCH CO., Dept. CP, 1637 Superior Ave., Cleveland 14, Ohio.

When inquiring specify CP9305 — see information request blank, pgs. 2-3



SKIN INFECTION?

USE NEO-FILM... New Liquid Coating

Prevent skin infections with NEO-FILM. This new protective coating shows amazing results under the most difficult conditions. New—a liquid—NEO-FILM dries to a "Visible Glove". Resists the penetration of oils, greases, many chemicals, coolants, solvents, fumes, etc. Priced low to reach many hands. Use the coupon below. Send for your trial bottle today.

NEO-FILM
"The Visible Glove"
JONES MEDICAL LABORATORIES, INC.
100 HURON ROAD • CLEVELAND, OHIO

Watts
NEO-FILM
JONES MEDICAL LABORATORIES, INC.
100 HURON ROAD • CLEVELAND, OHIO
Please send us a trial bottle of NEO-FILM
Name _____
Company _____
Address _____

When inquiring specify CP9306 — see information request blank, pgs. 2-3

MAKING YOUR "Pipe Dreams" COME TRUE

The pipe line with permanently leak-proof joints put together fast even by unskilled men is no "dream." It's a reality now, made real by X-Pando Pipe Joint Compound — standard compound in American Shipbuilding and Industry.

X-Pando is the only compound that expands as its sets — the only compound that comes in one formula for all uses... the only compound with an expanding action that corrects imperfections in threads and flanged faces.



Used by
U.S. Navy, U.S.
Maritime Commission,
U.S. Coast
Guard, U.S. Army,
U.S. Army Air Corps

DISTRIBUTORS
EVERWHERE

EXPANDS AS IT SETS

economical, goes 6 times further — holds anything carried in metal pipe except certain heavy acids — expands and contracts with pipe movement — joints easily taken apart — smooths flange faces — withstands deflection, sharp temperature changes — vibration and pressures — better than litharge and glycerine for all uses. X-Pando is more than a pipe joint compound. It is an all purpose industrial sealing agent.

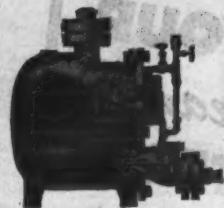
X-PANDO CORPORATION

43-15 36th St. • L. I. City, N. Y. • STILLWELL 4-7180

When inquiring specify CP9307 — see information request blank, pgs. 2-3

Page 35

NICHOLSON TRAPS



UP Production because
they DOWN Trouble

PISTON-OPERATED STEAM TRAP (left)
— Extra-large capacity; for pressures to
650 lbs.; positive, instantaneous. Vital
working parts of stainless steel.

WEIGHT-OPERATED STEAM TRAP
(right) — For pressures to 1500 lbs.
at 1000-degree maximum temperature.
Large capacity; positive automatic in-
termittent action. Fast acting valve.
Water-sealed discharge.



WRITE FOR
TRAP CATALOG
No. 942

COMPRESSED AIR TRAP (left)
— For pressures to 200 lbs.; in-
termittent, water-sealed discharge.

THERMOSTATIC
TRAPS — Unit
at right is one
of five types for
every industrial
use.



W. H. NICHOLSON & CO.

151 OREGON ST., WILKES-BARRE, PA.

Valves ★ Traps ★ Steam Specialties

When inquiring specify CP9308 — see information request blank, pgs. 2-3



Here's one way to get more capacity from vital production machinery. Eliminate power waste and loss of production due to slippage by using Baldwin-Duckworth Roller chain belts and sprockets for positive motor drives and timing operations.

Baldwin chain belts are positive in action. They are accurate to the split-second . . . operate smoothly and quietly . . . maintain positive speed ratios between shafts. They have the ability to absorb great shocks, are easy to install and require minimum maintenance and time out for adjustment.

For the complete story of Baldwin Roller chain belts and how they can help you, write for your copy of Catalog M, the 120-page book containing valuable engineering and design data, horsepower charts, installation and information and sizes and price lists.

BALDWIN-DUCKWORTH, DIVISION OF CHAIN BELT COMPANY, SPRINGFIELD 2, MASSACHUSETTS

BALDWIN ROLLER
CHAIN BELTS



When inquiring specify CP9309 . . . see information request blank, pgs. 2-3

★ IDEAS ★

Industrial ingenuity constantly hatches new ideas, many of which can be applied to similar problems in other plants. The Editors have selected these ideas and developments because of their interest and possible application in specific plant problems. If you would like more information on any of these, write direct to the manufacturers.

Vitamin A Color Enrichment With Carotene of Milk, Oils, Fats, Flour

Solution in cottonseed oil contains 5000 USP units carotene per gram, pure carrot oil and 80% purity crystals available

The value of color appeal has long been apparent to food manufacturers. In the past coloring methods have fallen into two categories: first the use of eggs, butter, fruit juices and other food materials capable of contributing color; second the use of certified food colors which are essentially chemical dyes having no food value. The discovery that the yellow color in butter and egg yolks was connected with Vitamin A value brought new factors into the subject of food coloring.

To-day we know that the yellow color of butter is carotene and that carotene is the source of most of the Vitamin A value of vegetable foods. Cows have the ability to extract carotene from their feed and transfer it to the fat particles of the milk. If the feed is rich in carotene, the milk, cream and butter will be rich in color and Vitamin A

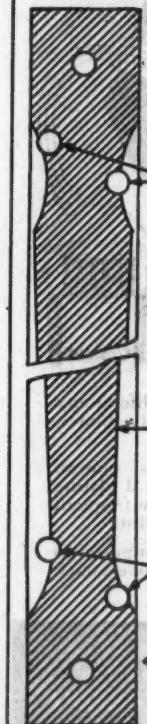
activity. On the contrary when the feed is low grade, as may be the case during winter or in periods of drouth, dairy products will be pale and possess little Vitamin A activity.

Following the discovery that carotene, the natural color of butter, possesses very high nutritional value (a single pound of pure carotene represents 756,000,000 USP units of Vitamin A, enough to satisfy the minimum requirements of 518 people for an entire year) efforts were made to produce it commercially. To-day carotene is produced by several independent companies from such diverse raw materials as palm oil, dried grasses, alfalfa meal and fresh carrots. Approximately ten tons of fresh carrots are required to make a single pound of carotene, but this is as much carotene as is present in 150,000 pounds of high quality June butter or enough to impart similar color to an equal tonnage of oleomargarine.

A highly satisfactory form of carotene for use in the Vitamin A color enrichment of foods is a solution of carotene in cottonseed oil containing 5000 USP Vitamin A units of carotene per gram, or 2,270,000 units per pound. This product (Carex) is mixed directly with the food to be enriched in the case of fats, oils, butter, oleo-

The Better Filter Plate

to produce better
FILTRATION



Use the FREEFLOW Filter Plate with its tapered drainage channels. They provide ever-increasing space for the ever-increasing volume of filtrate as it flows into the channels. Just like a river bed. Made to fit all standard filter presses and of several different kinds of wood and of Bakelite. In writing describe materials to be handled.

Filter Media Corp.
Irvington-on-Hudson, N. Y.
Chicago Salt Lake City

When inquiring specify CP9310 — see information request blank, pgs. 2-3

margarine, salad oils, baking fats, etc. In general not more than one gram per pound of fat oil is used. In the case of a farinaceous product, such as cake flour, egg substitutes or similar materials, a premix is made using soybean flour or other suitable carrier and blending the carotene with it in a mixer at the rate of about 10%, with or without an emulsifier such as vegetable lecithin. The blend thus obtained is then mixed into the batch in a sufficient amount to give the desired enrichment. Each gram of Carex contributes 5000 USP Vitamin A units in the form of carotene, hence the extent of the enrichment is readily calculated, taking into account the amount of material enriched. If a Vitamin A claim is to be made for the product, biological tests should be carried out to determine whether or not any loss occurs in the process and to establish a sound basis for a Vitamin A guarantee.

Pure carot oil is also available but the high concentration of this product (25,000 or more units per gram) makes it less satisfactory for general use. A third form, carotene crystals of approximately 80% purity (impurities consisting of vegetable gums and sterols) is available for special uses such as the enrichment of milk. Purified carotene crystals are used as a Vitamin A standard and in research studies. It is of interest to note that the international standard of Vitamin A activity is pure beta carotene, the activity of 0.6 microgram of which is defined as one International unit, and is equivalent to one USP unit. (Information on Carotene in the several forms referred to available on request. Nutritional research Associates, Box A, South Whitley, Ind.)

Advantages Of Retractable Cord Suggest Industrial Applications

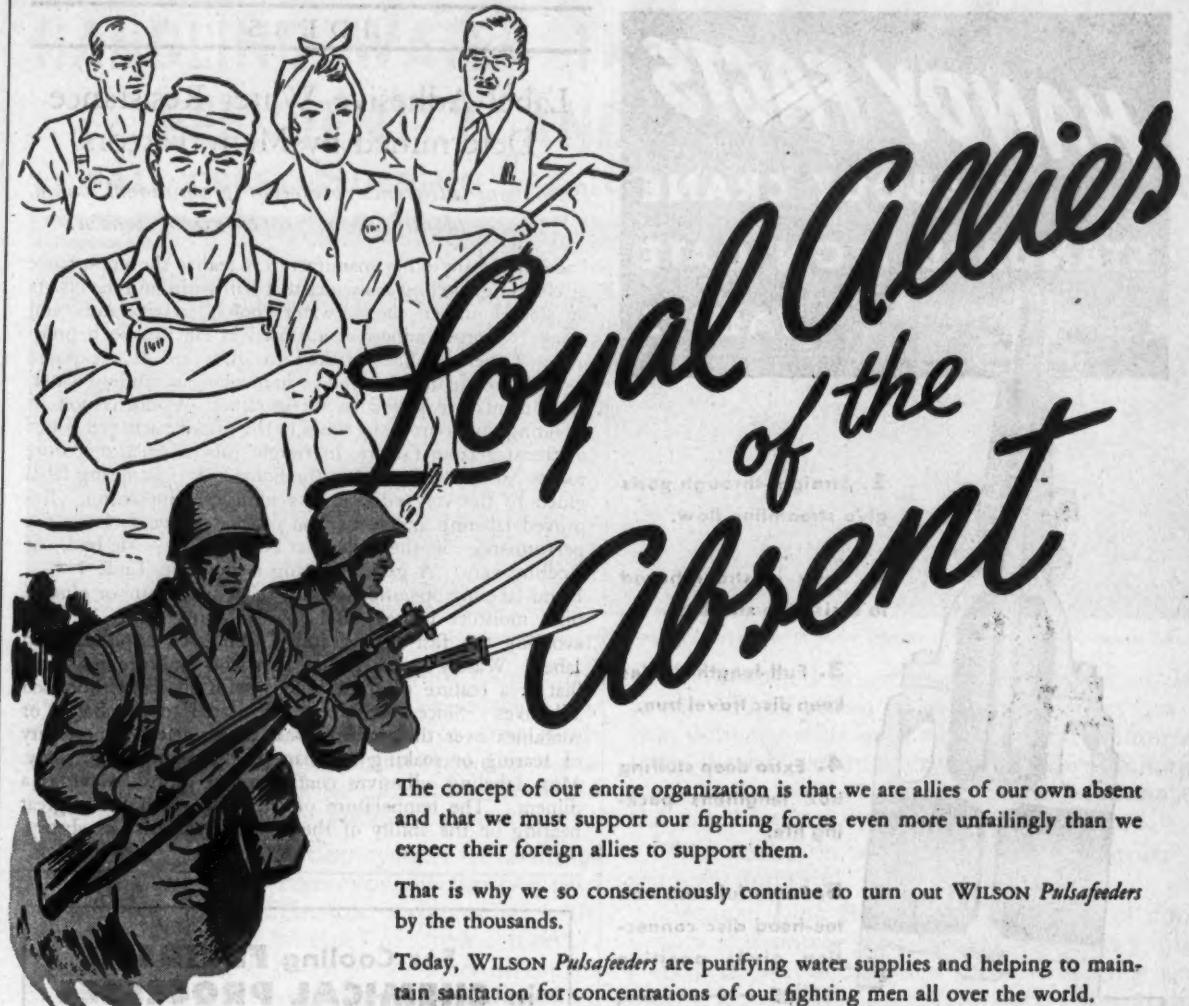
In various types, lengths and current carrying capacities; stretch seven times normal length

The advantages of rubber jacketed and retractable electrical cords indicate their adoption for electrical equipment and appliances, including many tools or where ever such cords are essential.



RETRACTABLE CORDS available in many types

The process of making these cords was, of course, originally developed in connection with the retractable handset telephone cord. It principally involves spirally molding the rubber jacket, assuring retention of the cord's normal position. Retractability is acquired without the use of springs or mechanical devices. Recently both Neoprene and Buna - S have been used in place of rubber for the outside covering of these cords with satisfactory results. The cords can be stretched to approximately seven times their original length. In addition to telephone instrument cords others are designed for greater current carrying capacity and various length requirements. Cords are now manufactured by Cordage, Inc., and distributed by Kellogg Switchboard & Supply Co., 6650 So. Cicero Ave., Chicago, Ill.



The concept of our entire organization is that we are allies of our own absent and that we must support our fighting forces even more unfailingly than we expect their foreign allies to support them.

That is why we so conscientiously continue to turn out WILSON Pulsafeeders by the thousands.

Today, WILSON Pulsafeeders are purifying water supplies and helping to maintain sanitation for concentrations of our fighting men all over the world.

In addition, they are serving in laboratories where medicines are compounded and precious ampoules are filled. They are speeding the production of processed foods and helping to do amazing things with chemicals.



WILSON Pulsafeeders are as nearly infallible as can be, and packless, positive displacement, piston action assures efficiency. Absence of packing glands, breakable diaphragms and contact between working parts and liquids being handled, assure durability.

Flow, guaranteed accurate to better than $\frac{1}{4}$ th of 1% regardless of volume, viscosity or pressure resistance, is manually set to any volume from 1 cubic centimeter to 400 gallons per hour.

WILSON Pulsafeeders are eminently superior for chemical proportioning, for processing (including foods), for laboratories, water and sewage treatment, and for difficult problems where acids, volatile chemicals, slurries, etc., must be handled in mono- or multi-flow.

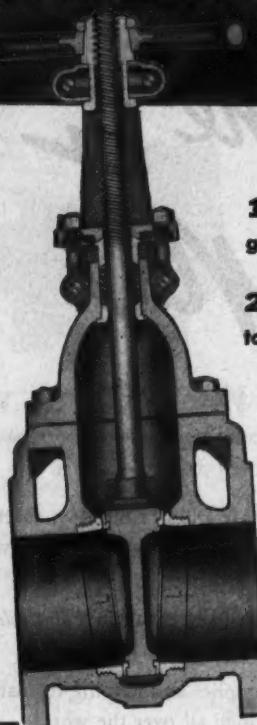
We invite your detailed inquiries and remind you that we can also supply almost any need in Automatic Liquid Filling Machines because of acquisition of Clevon Products Co. (Est. 1903)

WILSON **CHEMICAL FEEDERS, INC.**
ESTABLISHED 1923 . . . WITH EXPERIENCE IN ALLIED LINES SINCE 1914
207 CLINTON STREET (P. O. Box 998) BUFFALO 4, N. Y.

When inquiring specify CP9311 . . . see information request blank, pgs. 2-3

Ad No. K-7

HANDY FACTS ABOUT CRANE STANDARD IRON GATE VALVES



Made in all types and sizes: Non-rising stem, OS&Y, Quick-opening, Underwriters' patterns, Marine Cargo Valves. Flanged, screwed, or hub ends.

YOUR PRIORITY may entitle you—now—to these valves and other items in the complete Crane line. Your local Crane Representative will be glad to advise you. Crane Co., 836 S. Michigan Avenue, Chicago 5, Illinois.

Anything For Piping Systems—

You Can Get It From Crane!

CRANE

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS

When inquiring specify CP9812 — see information request blank, pgs. 2-3

Page 98

I D E A S

Label Adhesive Water Resistance Determined by Many Factors

Permanent adherence preserves promotional value, assures identification; proper use of product

Food and many other manufacturers realize the importance of choosing labeling adhesives that will withstand the effects of storage in ice chests, water coolers, refrigerators and many "ice-proof" adhesives are used in labeling such products. Other products packed in glass are also exposed to moisture are often cooled by immersion in running water. Condiments are stored in refrigerators. Condensation or sweating can occur many times in the life of packaged goods in transfer from factory, in freight cars, distributor's store rooms, store shelves and in the home. A tight fitting label glued to the very edge is less subject to loosening. Improved labeling and inspection methods often improve the performance of the adhesive being used. Methods of labeling vary. A general listing is given in Table 1.

Hand labeling operations a soft, fairly fluid paste or glue of high moisture content and low adhesive solids is used, avoiding too fast drying and a thin even application to label. Watery types do not have the moisture resistance that is a feature of most higher solid specially processed adhesives. Since, the labels are pasted to the bottle or container over their entire area, there is less opportunity of tearing or soaking off than if glue along edges only. Most labeling adhesives contain water or use water as a diluent. The temperature of the water bath has a great bearing on the ability of the adhesive to resist its absorption.

For Cooling FLUIDS in CHEMICAL PROCESSES with More Accurate Control of Temperature . . .

• Niagara Aero Heat Exchanger cools liquids or gases to within 10° of the atmospheric wet bulb temperature without refrigeration, with a saving of 95% of cooling water cost and saving the equipment cost of cooling tower, piping and pumping. Niagara patented "Balanced Wet Bulb Control" holds fluid temperatures constant with properly controlled heating when needed to restore the minimum temperature.

NIAGARA AERO HEAT EXCHANGERS are successfully applied to liquid and gas chemicals and intermediates, many liquid products in process, baths of water, oils and solutions, hydraulic fluids, power equipment water-jackets, air and gas compressors, generators and condensers.

For complete information and performance records, address:

NIAGARA BLOWER COMPANY

25 Years of Service in Air Engineering

New York Address:

Dept. CP-54, 6 E. 45th St., New York 17, N. Y.

Field Engineering Offices in Principal Cities

When inquiring specify CP9813 — see information request blank, pgs. 2-3

Page 99

BLAW-KNOX

SERVES THE
PROCESS INDUSTRIES



From Flow Sheet to Operation

Back of its vast manufacturing facilities Blaw-Knox maintains Research, Engineering and Chemical staffs which combine to assure the successful design and performance of every undertaking. Avail yourself of this service now.

Send for this literature

Catalog No. 1397 — Blaw-Knox Ductilewelding
Catalog No. 1739 — Blaw-Knox Handling and Unloading Plants
Catalog No. 1923 — Blaw-Knox Autoclaves
Catalog No. 1957 — Blaw-Knox Pilot Plants for Chemical Process Development
Catalog No. 1958 — Blaw-Knox Dryers
Bulletin No. 1678 — Continuous Deodorization
Bulletin No. 1951 — Solvent Recovery and Purification Plants
Bulletin No. 1953 — Aromatic Hydrocarbons
Bulletin No. 1976 — Counter Current Crossflow Extractors
Bulletin No. 1977 — Crossflow Settlers
Bulletin No. 1978 — Continuous Causticizing

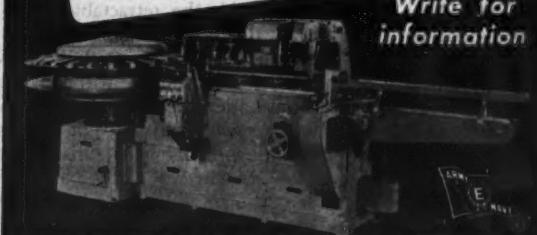
BLAW-KNOX DIVISION of Blaw-Knox Co.
2076 Farmers Bank Bldg., Pittsburgh, Pa.
SERVING IN PRINCIPAL CITIES

When inquiring specify CP9814 — see information request blank, pgs. 2-3

Maximum SALES APPEAL plus LOW COST FEATURE SEALTITE PACKAGES

* The square Sealite package has a flat top that permits stacking like a carton.
* Sealite uses any standard gusseted paper bag.
* Reduces packaging costs as much as \$500.00 per month per machine.

Write for
information



CONSOLIDATED PACKAGING MACHINERY CORP.
BUFFALO, N.Y.

When inquiring specify CP9815 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

IDEAS

TABLE 1
METHODS OF APPLYING LABELS

Hand Application

- (a) Brushing back of label . . . smooth on bottle with damp cloth.
- (b) Spread adhesive on board . . . transfer to label . . . smooth on bottle.
- (c) Soak label in paste until limp . . . smooth on bottle.
- (d) Moisten gummed label . . . smooth on bottle.

Machine Applications

- (a) Table model label gumming machines.
- (b) Semi-automatic hand fed labeling machines.
- (c) Full automatic Rotary, Straight-a-way or Turret Type Labelers.

TABLE 2
Relative Water Resistance of Bottle Label Adhesives

Adhesive	Plain Labels	Varnished, Lacquered, Labels	Foil Labels
Flour Paste *	Fair	Fair	Good
Dextrine Glue	Poor	Poor	Fair
Processed Starch Glue	Fair	Good	Good
Animal Base Iceproof Glue	Good	Very Good	Very Good
Casein & Resin Glues	Excellent	Excellent	Excellent

* This type cannot be successfully applied by machine.

tion. As the temperature rises, the rate of absorption increases.

With machine labeling, the important element of time enters the picture. Operating speeds and the tough, springy, heavy characteristics of label stocks require the use of strong, tacky adhesives, especially as labels must be smoothed around bottles of small diameter. In this case the machine rollers are adjusted to apply a thin layer of concentrated glue to the back of the label, and the quick tack or suction of the adhesive is depended upon to hold the label tight, even though final drying may not occur for several minutes. Table 2 lists adhesive types and the relative degree of water resistance depending on whether a plain, varnished, lacquered or foil label is used. Although foil labels are not obtainable at present they are included for purposes of comparison.

Great improvements are being made in the wet strength of label papers. If the paper fibers are easily softened by water, even the most water resistant adhesives may not show good results. In selecting new labels it is a good practice to secure stock samples and place them on bottles and conduct immersion tests. Dextrine base glues are excellent bottle labeling adhesives from a machining and dry bonding standpoint. They will withstand moisture in refrigerators and abuse in handling. They are similar to the gums used on postage stamps and while their easy moistening is an advantage in many fields, it makes them incapable of withstanding immersion. Processed starch adhesives are quite resistant to ice water but prolonged exposure will show evidence of loosening. Animal glue formulations are extensively sold as ice-proof glues and some will withstand immersion in room temperature water for days. Casein and synthetic resin base glues are fairly new to the bottle labeling field but are quite widely used for export shipments. The increased water resistance of these adhesives makes removal of dried residue from machines more difficult but usually the washer soaker solution of 5% caustic or alkali will ease removal. Some synthetic resin types may require the use of solvents such as benzene or denatured alcohol. (Paisley Products, Inc., 1770 Canalport Ave., Chicago, Ill. — Earl C. Lenz, Technical Service.)

For complete information regarding products described in this issue a handy request slip is provided between pages 2 and 3. Check the items that interest you, fill in name and address and send it to publishers. Information will come to you promptly.

HANDLING WATER TREATMENT CHEMICALS EFFICIENTLY AND ECONOMICALLY

at FALL CREEK PUMPING STATION of INDIANAPOLIS WATER CO.



Third floor—bucket elevator delivers to screw conveyor which in turn feeds two screw conveyors to water treatment plant and two to storage bins.

Compactness and cleanliness were two of the deciding factors in selecting a L-B Screw Conveyor-Bucket Elevator system for this modern station. This installation, in operation since 1941, represents a unique departure from the conventional manner of handling chemicals.

From R.R. car a suction system feeds material to a short screw conveyor, discharging into bucket elevator. Elevator raises chemicals three stories (about 45 feet) to screw conveyor, feeding four screw conveyors—two direct to bins in water treatment system and the other two into two storage bins. Thus the chemicals

can be handled to process or to storage, as desired. The bottom of each storage bin has a side delivery slide gate which permits material to be discharged into screw conveyor discharging into the boot of elevator, so that the material can be taken to process when needed.

The drives on all units are L-B motorized reducers and "RC" roller chain.

Because Link-Belt builds all types of conveyors and power transmitting machinery, our engineers are unbiased in recommending the most effective combination for each application. Consult the nearest Link-Belt office.

LINK-BELT COMPANY

Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Minneapolis 5, Dallas 1, San Francisco 24, Toronto 8. Offices and warehouses in principal cities.

BACK THE ATTACK —
BUY MORE BONDS



ELEVATORS AND CONVEYORS

One of the screw conveyors delivering chemicals direct to water treatment plant.



Conveyor under storage bins delivers into another screw conveyor which empties into bucket elevator.



When inquiring specify CP9316 . . . see information request blank, pgs. 2-3

PREMIER COLLOID MILLS



**FOR MECHANICAL CONTROL
of PARTICLE SIZES DOWN
to ONE MICRON in
HOMOGENIZING
DISPERSING
EMULSIFYING
DISINTEGRATING**



Send for the brochure "Better Products, More Profitably Processed" . . . a booklet which outlines the values of Premier Mill colloidal dispersion in food and chemical processing.

PREMIER MILL CORPORATION
218 GENESEE STREET • GENEVA, NEW YORK

General Sales Office: 110 East 42nd Street, New York

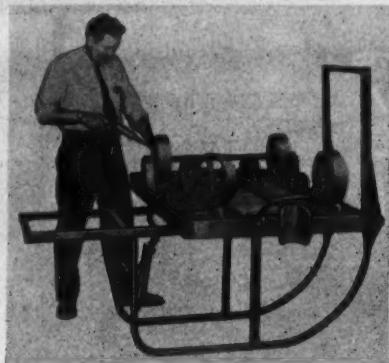
When inquiring specify CP9817 — see information request blank, pg. 2-8

Page 40

IDEAS

Tipping Rack Simplifies Servicing Platform Trucks and Trailers

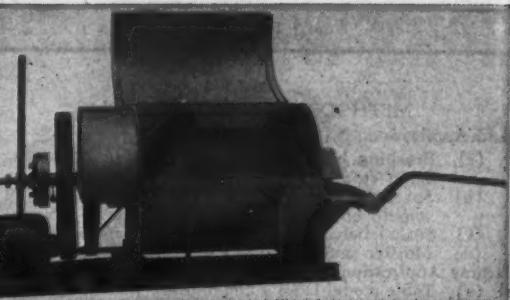
Makes it possible for one man to quickly, safely handle maintenance of trucks



RACK HOLDS TRUCK FOR SERVICING

necessary operations. The tipping rack is wheeled to truck or trailer and poked under nose of truck to engage arms beneath side of truck frame. A handy hook is attached to the opposite side of the deck. Crank — ratchet equipped for safety — is easily operated to bring deck top tight against face of tipping rack frame. The rack is then easily rolled over to upright position. The rack is all steel construction, electric welded. This unit is an advantage in setting up and maintaining a regular program of platform truck lubrication, cleaning, inspecting and changing casters

Servicing the running gear of platform trucks is simplified and speeded-up by a tipping rack known as TIP-E-Z, which permits one man to quickly turn trucks bottom-end up with ease and safety. The truck is securely in convenient position for lubrication and any other



5 Reasons Why the Multi-Mixer Has more advantages

1. A better mix in less time
2. Multi special arranged paddles
3. All material in action
4. Well built and dust-proof
5. Fully equipped with SKF bearings

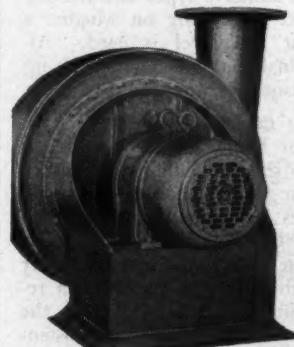
Built in sizes 3 to 60 cu. ft. Motor drive or geared head motor drive or tailor made to fill your requirements.

Write for full information.

**The Multiplex Concrete Machinery Co.
Elmore, Ohio**

When inquiring specify CP9819 — see information request blank, pg. 2-8

**For
CONSTANT
pressure
or vacuum
at all capacities**



GET accurate, constant blower pressure or exhaust air or vacuum under wide variations in volume . . . with a long-lived, centrifugal type Billmyre Turbo unit.

Sound design, simplified construction, no gears, relief valves, sliding members, or other wearing parts. No control devices required, no internal lubrication. Models and sizes to suit all requirements and capacities. Send for Bulletin B-4.

If you require constant air or gas volume at varying pressures, write for Bulletin P-100 on POTTSTOWN Blowers.

ALLEN BILLMYRE COMPANY
445 Fayette Ave., Mamaroneck, N. Y.

**ALLEN BILLMYRE
AIR AND GAS BLOWERS**

When inquiring specify CP9820 — see information request blank, pg. 2-8

CHEMICAL PREVIEW

**THOUSANDS OF
MAN-HOURS SAVED**

GET EVERYTHING IN ELECTRONICS & RADIO
FASTER... FROM THIS ONE CENTRAL SOURCE

Here's How: (1) Rush
and most complete stocks
of electronic and radio
equipment under one roof;
(2) Centralized procurement
for all your needs;
(3) Technical assistance;
(4) Expediting service. Save
time. CALL ALLIED FIRST!

FREE
Send for
Today's Most
Complete
BUYING
GUIDE

Write, Wire or Phone Haymarket 6800

ALLIED RADIO CORPORATION
833 W. Jackson Blvd., Dept. 17-E-4, Chicago 7, Ill.

Over 10,000 Radio and Electronic Items . . . such as:

Condensers	Transformers	Rheostats	Sockets
Relays	Photo Cells	Public Address	Wire
Tubes	Switches	Coils	Receivers
Test Equip.	Resistors	Rectifiers	Speakers

ALLIED RADIO

EVERYTHING IN ELECTRONICS AND RADIO

When inquiring specify CP9818 — see information request blank, pg. 2-8

QUICK ACTION!

For Regulation & Shut-Off



For close flow control and positive shut-off of air, gases, steam and fluids in connection with processing equipment, boilers, retorts, furnaces, dryers, pumps, fans, ventilating systems, hoppers, etc., consider these advantages of Rockwell Slide Valves and Butterfly Valves:

1. Simple, compact, efficient design.
2. Precision built of any metal to withstand corrosion, abrasion or temperature.
3. Easy application to any pipe or on any equipment.
4. Full area — minimum pressure drop.
5. Maintenance of constant pressure, flow rate or level of fluid.

Rockwell "Blast-Gate" Slide Valves are made in 1" to 20" pipe sizes; for pull handle, lever or wheel control. Butterfly Valves in 1" to 48" pipe sizes, for lever, hand or chain wheel, air diaphragm, hydraulic electric motor, solenoid, float or other controls.

Write for Catalog 406.

W. S. ROCKWELL CO.
56 Church St., New York 7, N. Y.

ROCKWELL VALVES

SLIDE and BUTTERFLY
FOR AIR • GAS • LIQUIDS • SOLIDS

When inquiring specify CP9321 — see information request blank, pgs. 2-3

COMMERCIAL TANK HEADS

The cold forming of steel in solid dies produces a head that is superior to one formed hot, or bumped out by hand or mechanical hammering. "Commercial" cold forming maintains accurate dimensions whether "One or A Carload" is made.

Dies are available for heads or circular shapes in diameters from 6" to 60" and in various styles and depth of flange.

We have two booklets — Shape Book No. 5 and "Price List" that should be in all buyers files.

FREE for Asking.

The COMMERCIAL
SHEARING AND
STAMPING CO.
YOUNGSTOWN 1, OHIO

When inquiring specify CP9322 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

IDEAS

when required. It is adjustable for underclearances from 9 1/2 to 17 3/4 inches. Weighs 132 lbs. (Service Caster & Truck Div., Albion, Mich.)

Stamping Once Made On Eight Presses Now Made On One

*Releases seven men and presses for other work and
boosts production, eliminates variation*



This stamping was previously made in eight operations. Eight stamping presses requiring the skill of eight operators were necessary. Completed coils showed variation due to many handling operations. The stampings now being made on the one special press show no such variations and the production is three times that of the eight presses formerly used. (The special press is the product of Heyman Mfg. Co., 100 Michigan Ave., Kenilworth, N. J.)

The ingenious stamping illustrated is made from 1/2 x 3/32 in. flat strip copper on one specially designed fully automatic press, requiring but one operator. A copper coil wound within itself,

Not all synthetic
gloves are
oil resistant



Protected by Stanzoils from costly hand injuries

Hands that work in oils, acids, caustic materials are safer from injury and lay-off in Stanzoils, made of DuPont's neoprene, which outlast rubber gloves 3 to 7 times over in such harmful substances — lower cost per hour of protection, plus saving of injury claims and lost production. Standard styles and sizes, black and white. Thousands of satisfied users. Write today for complete data.



Synthetic Rubber Division
THE PIONEER RUBBER COMPANY
239 Tiffin Rd., Willard, Ohio, U.S.A.
New York • Los Angeles

MADE WITH DU PONT NEOPRENE

When inquiring specify CP9323 — see information request blank, pgs. 2-3

Here's a New Book on Separating Solids and Liquids

with LINK-BELT LIQUID VIBRATING SCREENS



MAIL THIS COUPON →

• It contains the latest information, diagrams and dimensions on Link-Belt Liquid Vibrating Screens — the modern, efficient, low-cost method of separating solids from industrial waste waters, sludge, sewage, oils and other liquids. Includes illustrations of some of the hundreds of screens now in service. In many installations, stream pollution is not only being reduced but the solids are being made into valuable by-products . . . with others, as with copra, cottonseed, fish and linseed or soy bean oil, both the solids and oils are recovered and the quality of product improved. Investigate the profit possibilities of recovery by this method. Write for your copy today!

LINK-BELT COMPANY 2045 W. Hunting Park Ave.,
Road, Chicago 9; or the nearest office located in principal cities.

Please send me a copy of Liquid Vibrating Screen Book 1977.

Name

Address

City State

When inquiring specify CP9324 . . . see information request blank, pgs. 2-3

Page 41



When inquiring specify CP9325 — see information request blank, pgs. 2-3

One of the World's Largest
Electro-Chemical
Plants presented this



Watch for other case histories of how Niagara Filter Systems solve chemical problems . . . write us for descriptive literature.

niagara filter
CORPORATION

3080 Main St. Amherst 2100
Buffalo 14, N. Y.

FILTRATION ENGINEERS to the Processing Industries

When inquiring specify CP9326 . . . see information request blank, pgs. 2-3

NEW LITERATURE *



The following literature has been issued recently by manufacturers of the products discussed and is available to chemical process manufacturing executives on request. Address requests to the publishers by using handy request form, pages 2-3, or write to the manufacturers direct.

Self-Cleaning Electric Precipitators

Sixteen page bulletin (Number 250 E) illustrates and describes Model E — Electromatic self-cleaning air filter which combines electrical precipitation as an integral function of a self-cleaning air filter to obtain highest efficiency in air cleaning. The effectiveness of the electro-static principle as embodied in this equipment is enhanced by the self-cleaning feature which simplifies maintenance. It eliminates the necessity of shutting down the filter for manual cleaning. It also allows the filter to be built in standardized self-contained sections easy to install. Other features connected with this equipment include: constant low resistance since the collector plates on which the dust is deposited are continuously cleaned. Low current consumption — the power required for the electrostatic action averages about 15 watts per 1000 cfm. The bulletin describes in detail the different approach to the collector unit design which overcomes the difficulties of adequate insulation by separating the positive and negative plates into individual assemblies. The positive or charged plates are stationary. They are supported on heavy insulators fixed to the end plates of the filter housing. The negative or grounded plate assemblies are mounted on two endless chains which rotate over top and bottom sprockets to

form a continuous movable curtain. The lower part of the curtain is submerged in an oil bath through which it rotates to remove dust deposits on negative plates. Dust collected on stationary plates is removed by wiper. This wiper is in turn cleaned as it passes through oil bath. Bulletin sent on request.

AMERICAN AIR FILTER CO., Dept. CP, Louisville, Ky.

When inquiring specify CP9327 — see information request blank, pgs. 2-3

Powder Metallurgy

A comprehensive presentation of powder metallurgy is provided in a thirty-two page booklet that catalogs powdered metal parts, powdered metal bearings and lists the applications and advantages of the process. A designer's aid section outlines the categories in which parts may be placed, discusses limiting factors and includes drawings that emphasize important points to be observed and practices to be avoided. Other section headings are: Design Styles and Specifications, Porous Bearings, — bronze and iron, D-10, brass and graphite oilless bearing material. Installation of self-lubricating bearings. Copy of Powder Metallurgy on request.

KEYSTONE CARBON CO., INC., DEPT. CP, St. Mary's Pa.

When inquiring specify CP9328 — see information request blank, pgs. 2-3

How to Clear any Liquid

from water to tar

Twin Strainers give non-stop service. Manually cleaned when necessary without shutting off delivery. Single strainer types, where use permits of occasional short time-out for dumping strainer basket. Sizes for all needs.

ELLIOTT STRAINERS

At the left, the Elliott self-cleaning strainer, widely in use for clearing water of quantities of fine dirt. You never need to clean it, for it cleans itself by continual back-flushing of blanked-out strainer sections, while delivering continuous supply of clean water. Sturdy in construction, needs practically no maintenance, can be installed anywhere. Nine different sizes.



A-277

All industries using cleared liquids have proven the complete dependability of Elliott strainers. If you have a straining job, consult with us.



ELLIOTT COMPANY
Accessories Dept., JEANNETTE, PA.

Office in New York, Chicago, Boston, Philadelphia, Atlanta, St. Louis, San Francisco, Seattle, Los Angeles, and Canada.

When inquiring specify CP9329 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

NEW LITERATURE

Technical Data on Keeping Air, Gas Lines Free From Moisture and Dirt

The problem of contamination in air and gas lines and its removal is dealt with in interesting and practical detail in twelve page bulletin. It describes construction and design features of a purging unit which consists of a non-corroding nickel housing, containing a vertical shaft concentric, with the air inlet at the bottom and the air outlet at the top. Upon the shaft, mounted on oil sealed bearings, are four multi-blade rotors or impellers of durable molded plastic. Compressed air or gas passing through the blades impels the rotors at high speed. (Two rotors revolve left to right, the alternate ones, right to left) Moisture and dust become impinged on the blades and are thrown off by centrifugal force to the outside edges. Again by centrifugal force they are thrown to housing wall and are carried then to trap. The bulletin contains tables and data on the discharge of compressed air from 1/64 to 6 inch openings with line pressures ranging from 10-125 pounds per square inch. At 90 pounds gauge pressure, the average cfm for operation of pneumatic tools is given in a table which includes small hand sprays, jolters, riveters, chipping and scaling hammers, air hoists, rotary drills, sand blast and many other items of industrial equipment. Two pages of charts are shown by which selection of the right unit may be made easily. Specification and engineering are included. A large number of installation features showing use in many types of plants comprise a center spread. Copies of this bulletin Number 543 A on the Aridifier on request.

LOGAN ENG'G. CO., Dept. CP, 4900 Lawrence Ave., Chicago, Ill.

When inquiring specify CP9330 — see information request blank, pgs. 2-3

Data on Cutting Tools

A revised pamphlet gives complete details of metal cutting tools made from an improved grade of Stellite cobalt-chromium-tungsten alloy which gives a substantial increase in pieces machined between grinds over the performance of the original J-metal alloy. These tools can be economically used for machining practically all types of materials except chilled iron and manganese steel. Specific operations include turning, facing, boring, reaming, milling, grooving, forming, spot facing, core drilling and counterboring. Sizes of Star J-metal round tools have been added to more complete data on standard square, rectangular and tipped tools. In addition the list of standard milling cutter blades has been extended; information is detailed on tool holders and adaptors that can be made for use with Star-J-Metal; and the sizes, prices, and descriptions of Stellite alloy wear strips are included. Copies are obtainable upon request. HAYNES-STELLITE CO., (Unit of Carbide & Carbon Corp., 30 East 42nd St., New York, N. Y.

When inquiring specify CP9331 — see information request blank, pgs. 2-3

Nozzles & Spray Equipment

Spray characteristics, dimensions and performance data on a complete line of spray nozzles are given in a thirty-two page illustrated catalog. Illustrations show construction and kind of spray produced. Listed specifications on each nozzle are supplemented by tables showing capacities in gallons per minute and spray angles at various pressures. Special purpose nozzles, strainers, adjustable joints, humidifying assemblies, roof spraying systems and cooling towers and spray pond assemblies are also given complete treatment.

SPRAYING SYSTEMS CO., Dept. CP, 4036 W. Lake St., Chicago 24, Ill.

When inquiring specify CP9332 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

ONE gets you FOUR, RELEASES THREE...

HydroElectric

LIFT TRUCKS, INC., CINCINNATI

2425 SPRING GROVE AVENUE, CINCINNATI 14, OHIO

When inquiring specify CP9333 . . . see information request blank, pgs. 2-3



**YOU CAN
CLOSE THIS VALVE
TIGHT -
even over a
chunk of Scale**

**HILLS-McCANNA
SAUNDERS PATENT
DIAPHRAGM VALVES**

Nothing can stop this Hills-McCanna Diaphragm Valve from functioning properly. Scale or sediment on the seat are simply cushioned over snugly by the resilient diaphragm — tight closure is a certainty — no possibility of leaks or drips.

Yet this remarkable advantage is only one of the many afforded by the outstanding diaphragm principle which completely isolates working parts from fluid, eliminating wear, corrosion clogging, sticking — all repairs.

Interesting Catalog V-41 on request.

Use these valves for chemicals, abrasives, viscous and volatile substances, air, water, oxygen and acetylene gases, etc.



Streamlined Flow Area

—no pockets or parts to obstruct flow — ease friction — maintains pressure.

HILLS-McCANNA CO.

2370 NELSON STREET, CHICAGO

PROPORTIONING PUMPS • AIR & WATER VALVES • CHEMICAL VALVES
MARINE VALVES • FORCED FEED LUBRICATORS • DOWMETAL CASTINGS

When inquiring specify CP9334 — see information request blank, pgs. 2-3

**Shipping Schedules
Maintained on**

**SPECIAL CLOTHS AND FABRICS
FOR ALL CHEMICAL INDUSTRIES**

Purchasing of cottons is now simplified. By the Custom-Supplymanship of one firm bringing extra benefits, added in service to your industry. More ample and more complete stocks than expected from any single source today. A remarkable record of unique supplier success. And 13 years of fabric research and fabric counsel to many of America's greatest chemical concerns. Give us your textile problem. We will help you.

EVERY INDUSTRIAL FABRIC
Burcott Mills
FROM CHEESECLOTH TO CANVAS

622 W. Fulton Street, Chicago 6, Illinois

Rush complete information, samples, prices, as indicated.

CHEESE CLOTHS — All Grades. All thread-constructions. Bleached, extra-durable. All commercially lint-free. Ideal Straining qualities. Mill remains as low as 1 1/2¢ per yd.

FILTER and STRAINING CLOTHS especially prepared for and used by many of America's largest Chemical Plants today.

Specific fabric:..... Width:..... Wt.:..... Quan:.....

Other materials needed:.....

NAME:..... COMPANY:.....

ADDRESS:.....

CITY:..... STATE:.....

When inquiring specify CP9335 — see information request blank, pgs. 2-3

NEW LITERATURE

**Hydraulic Press Has "Closed-Circuit" System Of
Regulation of Ram Movement**

The "closed circuit" fast reverse system is a modern method of hydraulic press operation for production service. It is interestingly described in a four page bulletin which features a series of sectional drawings clearly explaining operating principles and an extra size phantom view of the press itself. The system provides for regulation of both speed and direction of every ram movement through control of the output of the radial pump. The two ports of the pump are connected directly with the two sides of the press ram. No reversing valve is employed. Instead the reversal is accomplished by changing the eccentricity of the pump plungers in relation to the pump cylinders. During the press reversal, the pump discharge is decreased at a uniform rate to zero, and increased at a uniform rate in the opposite direction. At the instant when actual reversal takes place, the flow of pressure fluid is stopped, thus eliminating the sudden impact of fluid flow at full pump discharge, and its shock to the entire hydraulic system and press structure. Additional photos show press in use in forging, straightening, assembling and powder metallurgy, coining, die casting. Full details available on request on the HPM closed circuit system. Bulletin 4400.

HYDRAULIC PRESS MFG. CO., Dept. CP, Mt. Gilead, Ohio.

When inquiring specify CP9336 — see information request blank, pgs. 2-3

**Here is Your FIRST *Part*
READY-TO-ROLL EQUIPMENT**

FMC STOCK — for immediate delivery

- 2—W. & P. 100 gal. working Cap. Jacketed Mixers double arm, double gear power tilting.
- 2—Glass Lined Jacketed Tanks 750 gal. one with agitating Brine Coil.
- 1—Devine Horizontal Vacuum Dryer or Fumigator; 6'4" x 15', complete.
- 2—Rotex Sifters; 40" x 85" and 54" x 120".
- 1—Glass Lined Sectional Vacuum Still, about 3,000 gal.
- 1—Buffalo Heavy Duty Cast Iron Jacketed and Agitated Kettle, 1,500 gal. 1—300 gal. Jacketed and Agitated.
- 7—Cast Steel Closed Vacuum Stills; 1,000 gal. Jacketed and Agitated, also 1—500 gal.
- 7—Heavy Copper Tanks, 1,000 gal. Vertical, closed with manhole.
- FILTER PRESSES; 3—Shriver 36" Wood Pl. & Fr.; 1—Shriver 42"; 1—12" lead lined. 16—Oliver Vert. Pressure Filters.
- 1—Valley Cast Iron 24"x24" Jacketed and Agitated Autoclave.
- STEAM JACKETED KETTLES; Copper, 40 gal. to 600 gal.; Cast iron and steel, 40 to 1,500 gal.; Stainless 1—(40 gal.); Aluminum 4—(50 gal.).
- 4—Colloid Mills and Homogenizers; Premier, Eppenbach, Manton Gaulin.
- 1—Mikro No. 4—24" Pulverizer with 75 H.P. Motor.

**NOW is the time for
all good processors to
release idle or surplus
equipment for the war
effort.**

**IMMEDIATE
MACHINERY CORP.**

EAST RIVER DRIVE & EAST 9th STREET, NEW YORK

When inquiring specify CP9337 — see information request blank, pgs. 2-3

FREE

**PRACTICAL POINTERS
ON DUST SUPPRESSION**

*...Description of the basic
principles involved in
dust suppression and
the various methods for
the control of dust in
various industries.*

WHITING CORPORATION
15667 Lathrop Ave.
Harvey, Illinois

**PRACTICAL POINTERS
ON DUST SUPPRESSION**

**—A New Booklet to Help You Solve
Dust Suppression Problems**

Contains data that will help you select the type of equipment you need for suppressing dust. Write for Bulletin FY-129.

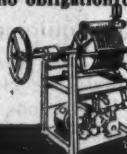
**"Wetting is True
Suppression"**

**WHITING
CORPORATION**
15667 Lathrop Ave.
Harvey, Illinois

When inquiring specify CP9338 — see information request blank, pgs. 2-3

**Pyrogen & Bacterial
Retentive Filters**

Ertel pyrogen retentive filters are being used extensively to safeguard saline and dextrose solutions, penicillin, whole blood and blood plasma, intravenous fluids, etc. An exclusive feature of this type filter is the specially developed fibre eliminator which prevents the presence of fibre in the filtrate. Can be obtained with a built-in steam generating unit which insures complete sterilization of the circulatory passages as well as the filter disks. Available in sizes to obtain a filtered output of from one to ten liters of aqueous solution per minute. Our new illustrated catalog describes these filters and all Ertel Liquid Handling Equipment. Write for your free copy today . . . no obligation of course.



**ERTEL
ENGINEERING CORP.
KINGSTON NEW YORK**

**ASBESTOS
FILTER
SHEETS**

FILTERS

**PORTABLE
MIXERS**

**MIXING
STORAGE
TANKS**

PUMPS

**VACUUM
BOTTLE
FILLERS**

**NEW YORK OFFICE
& SHOWROOM
Department B
40 WEST 48th ST.
NEW YORK, 19, N.Y.**

When inquiring specify CP9339 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

NEW LITERATURE

Chain Belts

Chain belts using a ductile cast metal with high tensile strength and a correspondingly yield point are the subject of a two-color-eight-page illustrated bulletin. This metal known as Z metal is described as resisting the corrosive action of many acids and alkalies which attack malleable iron and steel. It is not stainless but is a carefully alloyed metal cast from an air furnace. The chain castings are then heat treated in an electric furnace under extremely accurate and atmospheric control. A table gives the comparative physical properties of Z metal and cast steel not alloyed. .20-.30 carbon, cast steel not alloyed .40-.50 carbon as well as forged steel and malleable gray iron. Another table gives relative corrosion resistance from laboratory determination of Z metal and gray iron, malleable iron and stainless steel and Hi-Mal. Illustrations feature views of various industrial operations where these belts are in use and include seafood canneries, fertilizer plants, salt works, paper mills, cement mills and sugar mills. These chain belts are made in many styles, types and sizes for every kind of drive and conveyor service. Copy of Bulletin 437 on request.

CHAIN BELT CO., Dept. CP, Milwaukee 4, Wis.

When inquiring specify CP9342
— see information request blank, pgs. 2-3

Labeling, Pasting Units

Eight-page bulletin illustrates and describes pasting, gumming, latex cementing machines for labeling, wrapping, packaging short runs of bottles, cartons, cans, boxes for chemical, cosmetics, pharmaceuticals, paints, foods, beverages. No. 2067 label pasting machine in 6 and .81/2 inch width models. For cleaning the machine is merely lifted from motor base. Heavy duty pasters, 12 and 16 inch, a conveyor delivery label paster and edge strip and gumming units are also shown. Catalog LP 9.

POTDEVIN MACHINE CO., Dept. CP, 1223-38th St., Brooklyn, N. Y.

When inquiring specify CP9343
— see information request blank, pgs 2-3

Lift & Fork Trucks

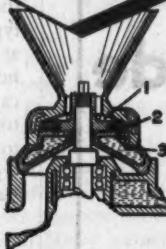
A vest pocket catalog gives complete specifications and illustrates each model of entire line of industrial trucks. Models for lift, tiering, loading, handling material on skids, dump truck and tractor units are included. Pictures show trucks in actual service in warehouse, shipping operations, handling tin plate and in various process and heavy industries. Copies on request.

CLARK TRACTOR CO., Dept. CP, Battle Creek, Mich.

When inquiring specify CP9344
— see information request blank, pgs 2-3

Perfect your postwar
products in this
LABORATORY COLLOID MILL

IT FEATURES BARTLETT-SNOW'S EXCLUSIVE Triple PROCESSING Action



1) FIRST PROCESSING ACTION—Mixing in the Upper Chamber by Impeller Vanes on Top of the Rapidly Revolving Rotor.

2) SECOND PROCESSING ACTION—Between the Housing and the Periphery of the Rotor.

3) THIRD PROCESSING ACTION—Driven Against Centrifugal Force Between the Rotor and Stator into Smaller and Smaller Areas.

• Here's a Colloid Mill that meets every laboratory requirement. It is easy to clean, and can be used for processing different materials, or different batches of similar materials, without delay, or contamination. It is adapted for use with V-groove, labyrinth, plain, or various special types of rotors and stators to meet different requirements . . . and the changes from one rotor and stator, to another, can be made easily and quickly . . . And . . . of special importance, this laboratory mill has been patterned so painstakingly after the larger sizes of Bartlett-Snow Triple Action Mills, that any effect or result produced in the laboratory can immediately be duplicated in production quantities . . . But send for catalog No. 87 . . . It gives complete details,—contains much engineering data of interest to research, development, and production men.

THE C. O. BARTLETT-SNOW CO.

6241 HARVARD AVENUE • CLEVELAND 5, OHIO

ENGINEERING AND SALES, REPRESENTATIVES IN THE PRINCIPAL CITIES

COLLOID MILLS • DRYERS, COOLERS, KILNS, CALCINERS AND PRESSURE VESSELS • CONVEYING AND ELEVATING EQUIPMENT OF ALL KINDS • BOILER PLANT COAL HANDLING, STORAGE AND RECLAIMING SYSTEMS • CRUSHERS, PULVERIZERS, SCREENS AND FEEDERS • POWER TRANSMISSION EQUIPMENT

When inquiring specify CP9345 — see information request blank, pgs. 2-3

Announcing COCHRANE - ROTAMETERS

A JOB FOR SPECIALISTS

Cochrane, in announcing this line of Rotameters, finds itself fortunate in its association with a group of specialists with years of experience in the highly specialized field of glass fabrication and the technique of flow measurement. In this organization will be found some of the men who helped pioneer the development of the American rotameter into a successful measuring device with interchangeable precision-bore tubes. The engineering phases of the work are in the hands of men with years of training in calculation, design, calibration and application of these products. For over 20 years of sales engineering service in flow measuring problems has earned for Cochrane representatives now handling the more complete line of flow measuring instruments, the confidence of engineers, superintendents and operating men.

Send for this complete catalog on the new
Series 100 ROTAMETERS—with exclusive features you will appreciate.

COCHRANE CORP., 17th St. & Allegheny Ave., PHILADELPHIA 32, PA.



When inquiring specify CP9340 — see information request blank, pgs. 2-3

Drop Tight!

FORGED STEEL GLOBE STOP VALVES

For positive flow cut-off, here's the answer. Edward Fig. 2698 forged steel screwed and globe stop valves in 1/4 in. to 2 in. sizes inclusive, are built for tight seating in demanding service with maintenance out to the minimum.

With stem at 90 degrees to the flow line, these versatile and economical valves, approximate straightway flow. Tough E-Valley stainless steel seats, disks and stems. Eight erosion and corrosion in the vital areas of greatest wear. Same design available in angle construction.

Send for free Catalog 101 today!

THE EDWARD VALVE & MFG. CO., INC.
1230 WEST 144th STREET • EAST CHICAGO, IND.

FIG. 2698
Globe stop valve
Sizes 1/4 in. to 2 in.
Inside screw
Screwed and
socket welding
ends
In angle design—
Fig. 2699

ASA Working pressures
600 lb at 850°F
Steam, oil
or gas
Hydraulic
(non-shock)
1400 lb at 100°F

Edward Valves

Forged Steel & Cast Steel

When inquiring specify CP9341 — see information request blank, pgs. 2-3

NEW LITERATURE

Fire Extinguishing Systems

Engineering, performance, flexibility, great service capacity of CO₂ fire extinguishing system is described in an eight-page-folder. It contains information on (1) How fire extinguishing requirements, (2) How systems are engineered for the specific hazards covered, (3) How carbon dioxide is given enhanced performance, (4) How carbon dioxide is released in mass discharge at high rate of application, (5) How one system of many can be protected by a single system, (6) Illustrates various types of hazards and the type of application required for each, (7) Typical performance data under extreme conditions with photographs.

CARDOX CORP., Dept. CP, 307 N. Michigan Ave., Chicago 1, Ill.

When inquiring specify CP9347 — see information request blank, pgs. 2-3

Welding & Cutting Equipment

Sixteen-page-bulletin features a complete pictorial presentation in full color of welding and cutting equipment. Included in this selection are: (1) Industrial (large capacity) unit constructed for hard usage, provided with the maker's safety regulators of the two stage reduction type. Maximum hourly gas capacity of these regulators at 100 lbs. delivery pressure exceeds 2000 cubic feet per hour, large enough for any operation; (2) Medium capacity unit; (3) light weight metal welding, brazing torches; (4) General Cutting Unit, (5) Hand cutting torches.

VICTOR EQUIP. CO., Dept. CP, 844 Folsom St., San Francisco, Cal.

When inquiring specify CP9348 — see information request blank, pgs. 2-3

Machines That Turn Out Precision-Made Wire Cloth

NEWARK
for ACCURACY

IF WOVEN wire is to be used for screening there's every reason to insist upon accurately made cloth. If cloth is not precise in its mesh or space, of what use is it as screening medium?

NEWARK FOR ACCURACY is not an empty phrase. From the machines in our modern factory, comes wire cloth that cannot be surpassed for its accuracy in every detail — wire gauge, mesh, space, crimping. Quality is evident throughout the entire range of NEWARK Wire Cloth.

Newark Wire Cloth Company

336 Verona Avenue

Newark 4, N. J.

5-NWC-2

When inquiring specify 9946 — see information request blank, pgs. 2-3

Page 46

Uniform Separation—Chemicals Metallics, Non-Metallic Minerals

The new model GAYCO Centrifugal air separator makes possible the uniform and increased recovery of fine material within a range of 40 to 400 mesh.

- Greater Capacity
- Cleaner Trottling
- 99% Through 325 Mesh

- 25% to 30% greater recovery of fines

- Not affected by variation in speed or rate of feed.



Manufacturers also of "Reliance" Crushers, Screen, Elevators, Conveyors, Bin Gates, Grizzlies. Complete crushing, screening and washing plants for crushed stone, sand and gravel.

Universal Road Machinery Co.

RUBERT M. GAY DIVISION 117 Liberty St. New York 6, N. Y.
Canadian Representative: F. H. Hopkins & Co., Ltd., Montreal
FACTORY & LABORATORY, KINGSTON, N. Y.

When inquiring specify CP9350 — see information request blank, pgs. 2-3



Ermeto—the really new fitting!

The Ermeto Safety Fitting makes it possible to connect tubes of any metal quickly, effectively and cheaply. Such connections will hold beyond the burst strength of the tube itself! The joints will withstand excessive vibration for an indefinite period without losing their original tightness. This remarkable new fitting has proved itself in thousands of installations on hydraulic, oil, water, gas, and fuel lines.

Twenty-eight page Ermeto Catalog available on request.



Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 13, OHIO
CLARK, CLEVELAND, COLUMBUS, DETROIT, KANSAS CITY, LOS ANGELES, NEW YORK, PHILADELPHIA, ST. LOUIS, TORONTO, VANCOUVER

When inquiring specify CP9349 — see information request blank, pgs. 2-3

WEST BEND EQUIPMENT CORP.

226 WATER STREET, WEST BEND, WISCONSIN

MATERIALS HANDLING ENGINEERS

Hydraulic Lift Trucks, Two and Four-Wheel Trucks, Towing Machines, Skid Platforms, Boxcar Trucks and Racks, Portable Elevators, and Special Equipment.

When inquiring specify CP9351 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

**TOOLS OF
YESTERDAY—
WERE NEVER
MEANT FOR
TODAY!**

Especially is this true of all materials handling equipment. Yale Hand Lift Trucks set the pattern for what is considered today's best materials handling tools.

All Yale Trucks are safer to operate—have a smoother roll—an easier lift—non-flying handles among their many other features.

For lower handling costs, greater handling efficiency, and complete operating safety, use Yale Hand Lift Trucks.

Capacities up to 20,000 lbs.

YALE

**THE YALE & TOWNE
MANUFACTURING CO.**

Philadelphia Division

Philadelphia 24, Pa., U. S. A.



When inquiring specify CP9352 — see information request blank, pgs. 2-3

*Clean, Dry Compressed Air?
It's Easy With An Aridifier!*

THIS Aridifier removes contamination from the compressed air used in this large brass stamping and forming plant for air-operated chucks, metal forming devices and air hoists, reducing tool maintenance costs quite substantially.

Aridifiers on your air lines are the most positive assurance of clean, dry air and immunity from the damage inflicted on tools and products by moisture, oil and dirt. Correct application of the centrifugal principle assures constant and thorough air cleaning. Write for Bulletin 543.

LOGAN ENGINEERING CO.

4900 Lawrence Ave., Chicago (30), Ill.

The ARIDIFIER
Dries and Cleans Compressed Air

When inquiring specify CP9353 — see information request blank, pgs. 2-3

MAY - JUNE, 1944 215

NEW LITERATURE

**Vacuum Evaporators
Rotary
Disc Filters**

Heavy equipment for the chemical and process industries: forced circulation evaporators, long tube evaporators, rotary drum continuous filters, dewaterers are among a variety of equipment presented in four page folder. The organization's facilities for producing this equipment and for handling fabrication to individual requirements is explained in detail. Evaporators include pressure and vacuum types in single and multiple effects and full range of sizes for all requirements. Modifications are provided to meet special conditions. Construction in all the usual materials and in a wide range of special metals and protective coverings to resist corrosion or to protect contamination of product handled. Features of a rotary disc continuous pressure filter are shown in an interesting large size sectional view illustration. This makes available continuous pressure filtration with continuous automatic discharge of the dry cake to atmospheric pressure. (Higher differential pressures (to 100 pounds gauge pressure operation in standard construction units) provide high, uniform filter rates and lower moisture content filter cakes. Standard sizes range from 25 to 800 square feet of area. Copies on request.

GOSLIN-BIRMINGHAM MFG. CO., Dept. CP, Birmingham 1, Ala.

When inquiring specify CP9354
— see information request blank, pgs. 2-3

**Flexible Couplings — Double
Chain, Simplified Design —
Quick Disconnection**

Flexible shaft couplings are described in a revised bulletin (Number 12). The various advantages of this roller chain coupling are discussed. Some of these are: The use of double chain increases roller sprocket bearing areas affording greater horsepower capacity for a given outside diameter and also permits boring for larger shafts. The new double chain series replaces the former single chain couplings. The coupling consists of only three parts — two sprockets and a length of roller chain. The clearance between the sprockets and the chain sideplates allows freedom of movement, so that the coupling can adjust itself to misalignment of shafts and provide end play. The coupling sprockets are made of steel, case hardened and drawn for durability. Tables give dimensions and horse-power ratings and there are numerous photos and drawings and pictures of actual installations. Directions for installation and maintenance are also given. Copies available on request.

DIAMOND ROLLER CHAIN & MFG. CO.,
Dept. CP, Indianapolis 7, Ind.

When inquiring specify CP9355
— see information request blank, pgs. 2-3

HOW AMERICAN INDUSTRY PRODUCES MORE, FASTER,
BETTER—WITH BOWSER EXACT LIQUID CONTROL



**SIX CARS OF BLENDED AVIATION OIL
... in one-eighth the time!**

This is the story of another of those it-can't-be-done jobs that helped turn the tide of battle.

Wolf's Head Oil Refining Company, Oil City, Pa., got an emergency order for six cars of Navy aviation oil, a special blend that must pass rigid laboratory tests. It was a job that would, under ordinary methods, take over 40 hours.

With a Bowser Proportioner, pumping directly into the tank cars, Wolf's Head finished the work in a few minutes over five hours. And all tests showed perfect blending.

This Bowser Proportioner blends the many different grades of oil produced by Wolf's Head with almost unbelievable speed (up to 175 g. p. m.) and accuracy (one part of one ingredient to 800 parts of finished blend) ... yet every test is "right on the nose."

THE NAME THAT MEANS
EXACT CONTROL OF LIQUIDS

BUY
WAR BONDS

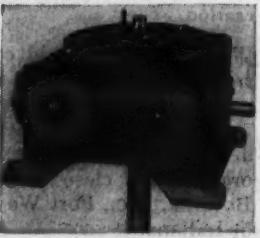
BOWSER

When inquiring specify CP9356 — see information request blank, pgs. 2-3

Page 47



Old LST Number 385 has plowed into the beach to deliver essential war materiel to the doughboys that are fighting to hold the beachhead... She's got her nose deep in the sand and must quickly back out for more "stuff" that'll help our G-I's in their battle with the enemy... This back-out is easily done with the aid of a D.O. James 120 HV Worm Gear Reducer that is attached to the winch that pulls on the anchor—"heave-ho my hearties and off she floats." ★ Since 1888 we have been privileged with many opportunities of solving the power-saving problems of American industry... and now with such varied war time requirements the D.O. James line of Gear Speed Reducers of every type will prove an aid to you in the solution of your power-saving problems.



D.O. James Worm Gear Reducers are available in 26 sizes with a ratio range of 6 to 65:1 and from 1/32 to 150 horsepower. Either horizontal or vertical drive and in the Standard Reducer or Motorized.

D.O. James

ESTABLISHED 1888 MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO 7, ILL.

When inquiring specify CP9357 — see information request blank, pgs. 2-3

NEW LITERATURE

Directory of Independent Research, Testing and Inspecting Laboratories

The Directory of the American Council of Commercial Laboratories furnishes information about the scope of activities of these independent laboratories and how they are serving industry in the solution of scientific, engineering, testing and inspection problems. The foreword traces the foundation of the organization, its objectives, its contributions to the war effort and its affiliations with other organizations and societies. The book also contains excerpts from the by-laws deemed to be of public interest relating to the eligibility for membership; the standards maintained by the laboratories in their service; and the relationship between the laboratories and their clients. A statement is presented by each of the member laboratories, describing its own organization, executive officers, personnel and a recital of customary services and specialties. The directory concludes with a chart arranged to present a graphic survey of the activities of all the member organizations. Copies may be obtained from the secretary, A. J. Nydick, addressed as below.

AMERICAN COUNCIL OF COMMERCIAL LABORATORIES,
63 Wall St., New York 5, N. Y.

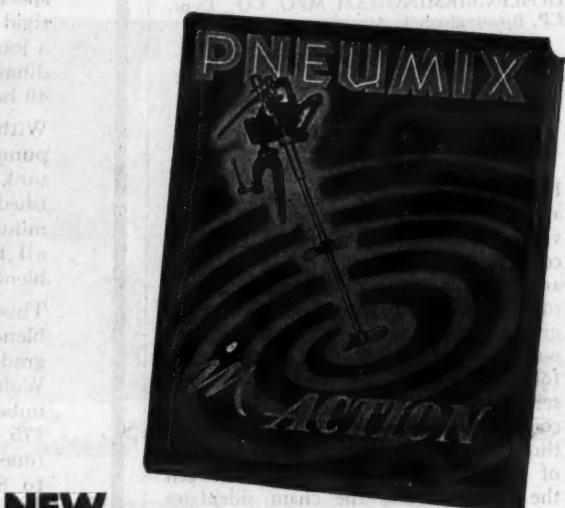
When inquiring specify CP9358 — see information request blank, pgs. 2-3

Panelboard Maintenance

Pocket size booklet — 28 pages — contains simple instructions for keeping switches, panelboards and switchboards in good operating condition. Each section has suitable drawing to augment text. Directions are also given for ordering parts. Booklet available on request.

SQUARE D CO., Dept. CP, 6060 Rivard St., Detroit, Mich.

When inquiring specify CP9359 — see information request blank, pgs. 2-3



NEW BOOKLET . . . on Safe mixing

★ Send for new 24-page booklet showing PNEUMIX agitators in actual use in a wide range of industries. Run by compressed air, they are safe with flammable mixtures, have variable speeds, are more portable. By the makers of ECLIPSE manual and automatic spray equipment.

ECLIPSE AIR BRUSH CO., 393 Park Ave., Newark 7, N. J.



When inquiring specify CP9360 — see information request blank, pgs. 2-3

SWENSON-LEVAL Clarification

FILTERS

with fully mechanized cleaning



Filter thru Stone...

No cloths or pads to change

New construction principle... Filterstones form a rigid support for the filter-aid precoat, a guarantee of clear filtrate. Note large cake space provided. Dry cake discharge if desired.

Cleaned by Stripping Sprays that vigorously wash every inch of filter area. No dismantling. No messy hand labor. Bulletin F-103 gives range of sizes.

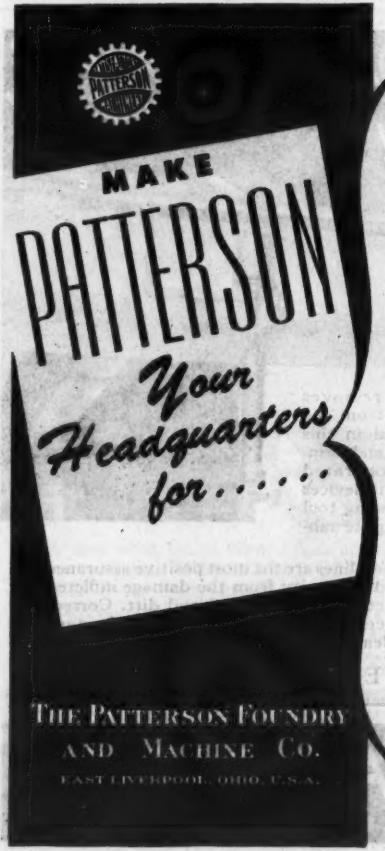
LEVAL FILTERS

SWENSON DIVISION OF WHITING CORP.
District engineers in 26 principal cities

927 Wrightwood Ave.

Chicago 14, Illinois

When inquiring specify CP9361 — see information request blank, pgs. 2-3



Agitators . . .
Blenders (Wet and Dry) . . .
Centri-Cone Mixers . . .
Dissolvers . . .
Digesters . . .
Kettles . . .
Kneaders . . .
Mills (Pebble, Ball and Tube) . . .
Mixers of all Types . . .
Nitrators . . .
Reactors . . .
Sulphonators . . .
Typhoon Portable Mixers . . .
Unipower Agitator Drives . . .
CHEMICAL AND PROCESS EQUIPMENT . . . OF ALL KINDS.
Write for the Facts

THE PATTERSON FOUNDRY
AND MACHINE CO.
EAST LIVERPOOL, OHIO, U.S.A.

When inquiring specify CP9362 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

NEW LITERATURE

Full-Floating Foundry Shake-Outs

Full floating foundry shake-outs are featured in two-color illustrated bulletin of twelve pages. The entire frame as well as the superimposed load rides on heavy duty, soft coil springs. It is explained that there is no need to build an excessively heavy, massive foundation to support the weight and sustain the shock of impact. Portable models do not require a foundation, the foundry floor being ample. Other listed features of this equipment are: lower power requirements. Under excess loads it is still possible to rotate the shaft. Thus, it is not possible to burn out the motor. There are no projecting extensions, eliminating the possibility of damage due to dropping of any heavy weights near-by and also protects workers. In the entire unit there are only two bearings and they do not carry any part of the load. The vibrated frame is all-welded plate, structural shape construction with vibrator and attachments connected by machine-finished, body-bound bolts, no rivets are used at any point. The drive shaft is high carbon steel, the bearings are heavy-duty, self-aligning type. Around the vibrator housing is a water jacket in case the handling of hot sand makes water cooling necessary. Bulletin 120-A on request.

ROBINS CONVEYORS, INC., Dept. CP, Passaic, N. J.

When inquiring specify CP9363 — see information request blank, pgs. 2-3

Hard Rubber Products — Suggestions for Machining, Cutting, Drilling, Polishing

Distinctive qualities of hard rubber which make it so important in industrial applications are emphasized in illustrated four page bulletin. Some of these qualities mentioned are: high electrical resistance, great resistance to chemicals, including acids, alkalies, corrosives and gases, resistance to electrolytic action, superior tensile strength, low water absorption, transparent to heat rays, easy to machine, high lustre when polished. Applications of various hard rubber types are listed as well as the kinds of products which can be successfully manufactured from the material. Suggestions for machining, including cutting, punching, turning and milling, drilling, tapping, threading, surfacing and polishing are of interest. Tables listing the properties of the types produced by the company and dimensions and weights of sheets, rods and tubing are included. Use of crude rubber is not permitted, of course, in the manufacture of most hard rubber products, synthetic rubber now being used, so technical data given is approximate. Copies on request.

B. F. GOODRICH CO., Dept. CP, Akron, Ohio.

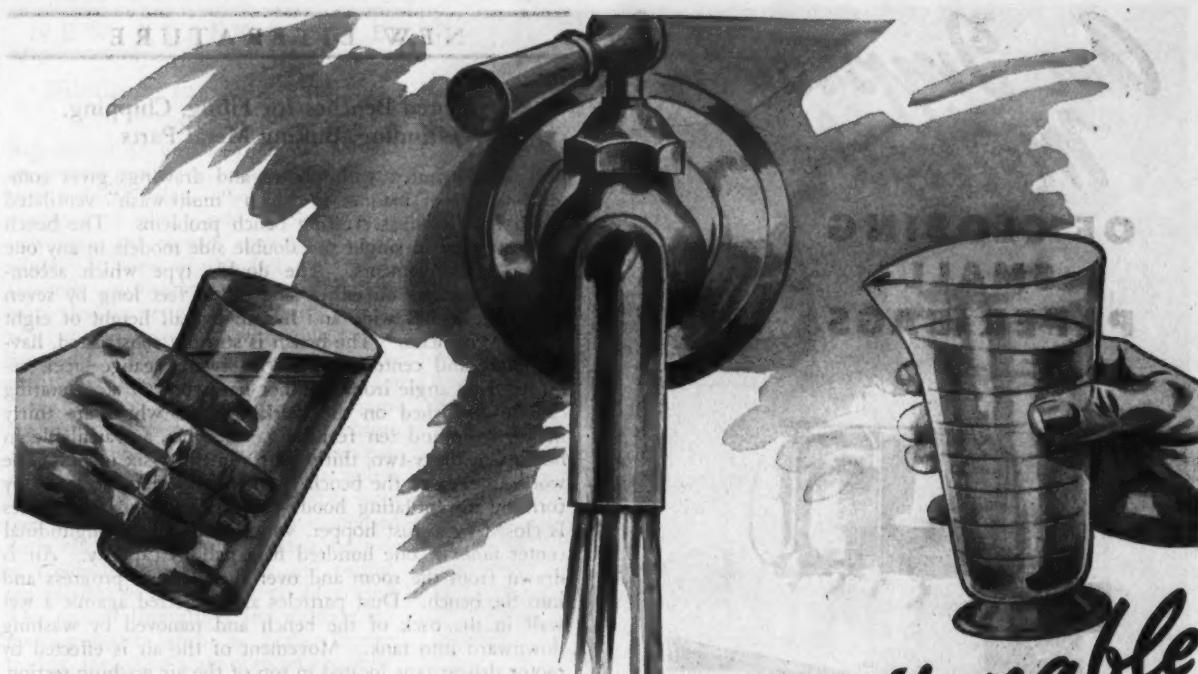
When inquiring specify CP9364 — see information request blank, pgs. 2-3

Infra-Red Reflectance Standards

Many government paint specifications call for infra-red reflectivity. To meet the demand for infra-red reflectance standards, those referred to here are offered. These standards are washable and permanent. They are made of metal, coated with a durable baked enamel and are sold in sets of three. These correspond to the three levels of infra-red reflectance used in U. S. Army specification No. 100-12 which are as follows: Standard panel No. 1 — 24.7%, Standard Panel No. 2 — 37.4%, Standard Panel No. 3 — 56.6%. The standards are calibrated for the Wratten 89-A filter, are accurate to 0.5%. They can be used for direct photographic comparison or for reflectometric measurements.

STEWART RESEARCH LABORATORY, Dept. CP, 1340 New York Ave., Washington 3, D. C.

When inquiring specify CP9365 — see information request blank, pgs. 2-3



Good to drink... but questionable for process use



The Graver Underdrain System—a highly important feature of the Graver Zeolite Water Softener—consists of a steel plate, equal in area to the Zeolite bed; with specially designed strainer nozzles set in on 6" centers, insuring uniform distribution to and collection from the entire bed. No grout fill is required and there are no hidden pockets to collect stagnant water and bacteria.



Hard water may be satisfactory, or even desirable for drinking purposes. But when it comes to process use . . . that's another story. This hardness must often be either reduced or entirely eliminated if satisfactory results are expected.

Graver Zeolite Water Softeners are providing this accurate and uniform conditioning or process water in many of the country's leading process industries. They can be designed to deliver a water of zero hardness (as determined by standard soap tests) or whatever degree of hardness may be desired for your particular process. Where required, they can be designed to entirely remove all dissolved solids, delivering a water equivalent to distilled water.

In developing the Zeolite Water Softener to its present high degree of efficiency, Graver has incorporated numerous features which make for ease of operation, accurate control, and maximum economy. These features are illustrated and described in detail in our new bulletin, No. 315, which we will gladly send without obligation. Write for this bulletin—today.

Process Equipment Division of

GRAVER TANK & MFG. CO., INC.

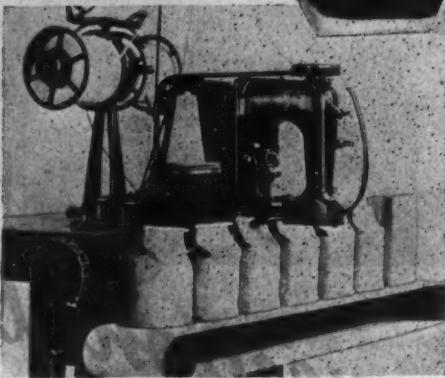
4809-55 Tod Ave., East Chicago, Ind.

NEW YORK CATASAUQUA, PA. CHICAGO TULSA

Graver designs, builds and installs all types of water conditioning equipment including Hot Process Water Softeners—Zeolite Water Softeners—Demineralizing Plants—Water Filters—Iron Removal Filters—Taste and Odor Removal Filters—Reactivators—Chemical Mixing Tanks—Chemical Proportioners.

When inquiring specify CP9366 . . . see information request blank, pgs. 2-3

An Improved Method of Closing Small Paper Bags



Features of the Union Special Dubl-Tape Closure Method:

- Produces neat, strong packages.
- Can be used with any fillers, weighers or packers.
- Fully automatic or semi-automatic installations available.
- High speed . . . will handle output of any filling equipment.
- Inexpensive . . . closures applied at very low cost.
- Dependable and easy to operate.

THE Dubl-Tape Sewed Closure for 1 to 10 lb. filled paper bags, produced by the Union Special 60000 C Sewing Head provides a package that fills the bill in every respect. The machine automatically applies a narrow strip of paper tape to each side of the bag top, sews through tape and bag, trims the bag top and clips the tape between bags. For novel merchandising effects, colored or printed tapes may be used. For full details write today.



442 North Franklin Street, Chicago 10, Illinois

When inquiring specify CP0367 — see information request blank, pgs. 2-3

Page 50

NEW LITERATURE

Ventilated Benches for Filing, Chipping, Grinding, Buffing Metal Parts

Bulletin illustrated with photos and drawings gives complete details of manner in which "multi-wash" ventilated bench handles dust creating bench problems. The bench is constructed in single and double side models in any one of four arrangements. The double type which accommodates workers on either side is ten feet long by seven feet eight inches wide and has an overall height of eight feet eleven inches. The bench is sturdily constructed, having ends and center supports of twelve gauge steel, reinforced by angle irons. Either hardwood or steel grating can be furnished on the work surfaces which are thirty inches wide and ten feet long. Benches are available in heights in thirty-two, thirty-four and thirty-six inches. The work area above the bench is enclosed with a steel canopy forming a ventilating hood. The space below the grates is closed by a dust hopper, which slopes to a longitudinal center tank of one hundred fifty gallons capacity. Air is drawn from the room and over the work in progress and into the bench. Dust particles are projected against a wet wall in the back of the bench and removed by washing downward into tank. Movement of the air is effected by motor driven fans located in top of the air washing section. Tables and drawings give all essential information and four standard arrangements are shown. Copies of bulletin 1142 A on request.

CLAUDE B. SCHNEIBLE, Dept. CP, 2827-25th St., Detroit, Mich.

When inquiring specify CP0368 — see information request blank, pgs. 2-3



M.S.A All-Service GAS MASKS WITH MODEL-S CANISTER

APPROVED BY THE U.S. BUREAU OF MINES



Model S Canister with
Standard Coupler in
background.

The M.S.A. All-Service Mask with Model S canister protects against all poisonous industrial gases, toxic dusts, mists, smoke, etc.—single or in combinations (including carbon monoxide); where there is sufficient oxygen present to support life, is officially approved by the U. S. Bureau of Mines, and offers maximum comfort and convenience in service. Canister has uniquely-designed large-area filtering element for smoke, dusts and fumes—of lower breathing resistance and of particular value under certain emergency conditions. Mask is equipped with All-Vision facepiece, which allows unobstructed vision at all angles, fits comfortably without drawing or binding, and affords a perfect gas-tight seal. Both the Model S All-Service and the Standard All-Service canister are interchangeable in the harness. Carrying case accommodates mask with either canister, together with spare. Write for details on the M.S.A. All-Service Mask in Bulletin No. EA-8!

MINE SAFETY APPLIANCES COMPANY

Braddock, Thomas & Meade Sts., Pittsburgh, Pa.
District Representatives in Principal Cities

When inquiring specify CP0369 — see information request blank, pgs. 2-3



40 years of valuable experience can mean a lot when it comes to the Control of Industrial Dust.

The giant "CH" Collector above and the "CK" Unit Collector in the insert show the wide range of Pangborn Dust Control applications. Both are the fruit of our 40 years of valuable experience.

Bring your dust problem to Pangborn, today!

PANGBORN

WORLD'S LARGEST MANUFACTURER OF DUST COLLECTING AND DUST EXHAUST EQUIPMENT

PANGBORN CORPORATION . . . HAGERSTOWN, MARYLAND

When inquiring specify CP0370 — see information request blank, pgs. 2-3

SIMPLE MECHANICAL COUPLER

SPEEDS INSTALLATION



Field assembly of Ric-wil Prefabricated Insulated Pipe Units has been greatly simplified by a drive coupler, eliminating the need for skilled workmen, and still further reducing installation time. After pipes are coupled or welded and insulation applied; a split connector sleeve is slipped over the opening. Clamps are driven in place (see illustration) drawing the coupler tightly over conduit ends, from which corrugations have been removed at the factory. A preheated asphalt blanket is then applied over the entire closure area.

Where specifications call for all-weld construction, coupler is welded to conduit after clamps have been applied. Clamps are then removed and the longitudinal seam welded.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS

THE RIC-WIL COMPANY - CLEVELAND, OHIO

When inquiring specify CP0371 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

WHEELS You Can TRUST

High production—in WAR and PEACE—calls for WHEELS that perform under peak loads without interruption.

YOU MAY WANT wheels that contribute to lower operating costs through faster travel, higher safety factor, quiet operation—OR—that protect expensive floors, safeguard fragiles through full-cushioned shock absorption—OR—that are bearing protected against abrasive grits—OR—you may want the "just right" wheels on which to mount the mobile conveyances or portable equipment you manufacture.

CAST and
PRESSED
WHEELS
for
INDUSTRY
with
Rubber

WE RECOMMEND — consideration of the soundly engineered, free-rolling wheels our long experience and exceptional facilities can produce for you.

BRING YOUR WHEEL PROBLEMS TO US French & Hecht engineers will gladly analyze your requirements and submit reliable recommendations for the wheels you require for any purpose and in any quantity.

Complete Information on Request



When inquiring specify CP9372 — see information request blank, pgs. 2-3

QUICKER HEATING

- Small Size
- Light Weight
- One Moving Part
- Low Price

OVER
300,000
SOLD

Sold by more than 100 Mill Supply Distributors throughout the U. S. A. See your supply house or write for Catalog T-1738

YARNALL-WARING CO., 125 Mermaid Ave., Phila. 18, Pa.



When inquiring specify CP9373 — see information request blank, pgs. 2-3

MAY-JUNE, 1944

NEW LITERATURE

Substitutes for Critical Silver Solders

Reprints of an article which is available on request present information on several new welding alloys which offer the advantages of silver solder, plus certain new ones, yet contain very little or no silver. In view of the fact that manufacturers must now use domestic silver many are interested in replacing it with other materials, in line with conservation programs. The new welding alloys are not primarily designed as substitutes for silver solder. The bulletin cites a number of actual cases where these welding alloy rods have met difficult problems such as in joining copper bus bars where a brass collar had been employed to hold bars together and was not only dispensed with but gave better operation because of conductivity of the alloy and permitted savings in the amount of alloy used. The reprint lists alloys for welding numerous metals such as brass, bronze, copper, including aluminum bronze, everdur, beryllium bronze and beryllium copper; steel, including high and low copper alloys, chrome-molybdenum, stainless steel, tool steels, and tungsten carbide; Nickel and nickel alloys such as iconel, nickel silver and ambrac. Reprint requests should be sent to address below.

EUTECTIC ALLOYS CO., Dept. CP, 40 Worth St., New York, N. Y.

When inquiring specify CP9374
— see information request blank, pgs. 2-3

Safety Equipment

Industrial maintenance, safety and fire protection products totaling some 500 separate items are described in a buyer's "Encyclopedia." An unusual feature of this book is the data it contains on such subjects as sizes and types of hose threads, nozzle and fire stream data, information on proper maintenance of fire hose, types of extinguishers and fires for which they are best suited. Industrial maintenance and safety items include rechargeable flashlight batteries, safety gloves and goggles, helmets and masks, extinguisher safety seals, first aid equipment and warning signs. Copies are available upon request.

**GENERAL DETROIT CORP., Dept. CP,
2200 East Jefferson Ave., Detroit 7, Mich.**

When inquiring specify CP9375
— see information request blank, pgs. 2-3

Data on V-Belts

"Engineering Data for V-Belts" is the title of a pamphlet containing complete details on care and installation of all types of V-Belt Drives. One section of the thirty-three page pamphlet is devoted to new steel cable V-belts. Copies are available on request.

GOODYEAR TIRE & RUBBER CO., Dept. CP, Akron, Ohio.

When inquiring specify CP9376
— see information request blank, pgs. 2-3

CONFIDENCE



KOLD-HOLD . . . Co-Pilot

Performance builds the confidence of our fighting pilots in their ships . . . but, long before enemy objectives are sighted, PERFORMANCE is demanded in the testing of vital instruments and materials. . . KOLD-HOLD Sub-Zero equipment meets this challenge in assuring accuracy and dependability.

DO YOU
Have a Cold Processing Application:

DO YOU
Require Temperature Testing Units with pressure and humidity control:

DO YOU
Know that Cold Temperature Processing Is Vital to Modern Production Methods:

● KOLD-HOLD units are productionized* to YOUR specific problem. Catalog S-Z 431 illustrates many types of machines available now. Write for your copy today.

KOLD-HOLD
MANUFACTURING COMPANY

*Engineered for Production

434 NORTH GRAND AVENUE • LANSING, 4, MICHIGAN

When inquiring specify CP9377 — see information request blank, pgs. 2-3

Page 51

DON'T GET CAUGHT with your PUMPS down

Standardize on
BLACKMER
ROTARIES

When the "buckets" (swinging vanes) finally wear out, this simple replacement restores a Blackmer pump to normal capacity. It's a 20-minute job.

The curve shows the sustained capacity of Blackmer pumps. 20 years of service is not unusual. Compare this with a conventional type rotary pump.

Double bearings eliminate shaft-whip and provide exceptional rigidity. The bearings are located outside the pump casing, away from the pumpage, protected by packing.

Built-in relief valve will bypass the entire capacity of the pump without shock or end-thrust. This gives positive protection to the pump. Valve operation is quiet — no chatter.

For tough jobs, handling corrosive or mildly abrasive liquids, Blackmer pumps are furnished with removable liners. When finally worn out, the liner is replaced and the pump restored to normal capacity. This saves the cost of a new pump.

PUT THIS ECONOMY TO WORK IN YOUR PLANT NOW.

POWER PUMPS

5 to 750 GPM — Pressures to 300 psi.

HAND PUMPS

1½ to 25 GPM. Pressures to 125 psi. 56 models.

Write for new Bulletin No. 304—Facts about
Rotary Pumps.

BLACKMER PUMP COMPANY
1845 Century Avenue, Grand Rapids 9, Mich.



When inquiring specify CP9378 — see information request blank, pgs. 2-3

Page 32

NEW LITERATURE

Rectifying and Demagnetizing Unit and Magnetic Chuck

An electro-magnetic chuck and the selectron, a current rectifying, demagnetizing and power varying unit, is described and pictured in a four page bulletin. In it is shown how the selectron, an electronic device furnishes DC power, gives the operator control over the magnetic pull from the chuck and also demagnetizes the chuck. The variable magnetic pull makes possible the grinding of difficult jobs such as flat warped pieces. The selectron has a capacity of 175 watts, operating on 220 or 440 volts to produce 220 volt DC current. The selectron will operate any chuck drawing up to 175 watts. Chuck in two sizes — six by eighteen inches and eight by twenty-four inches, wired for operation on 110 volt or 220 volt DC current, both units complete and ready to plug-in for operation. Copies on request.

CONTINENTAL MACHINES, INC., Dept. CP, 1301 Washington Ave., So., Minneapolis 4, Minn.

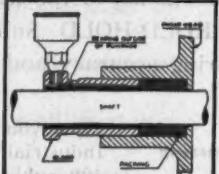
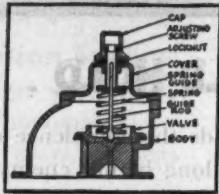
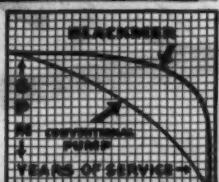
When inquiring specify CP9379 — see information request blank, pgs. 2-3

Ingredient & Packaging Scales

Eight page two color folder illustrates and describes line of scales for weighing ingredients or bags, cartons, packages on filling operations. Models for extra fast operation are shown and postage and counting scales are also featured. Bulletin on request.

DETECTO SCALES, INC., Dept. CP, 1 Main St., Brooklyn, N. Y.

When inquiring specify CP9380 — see information request blank, pgs. 2-3



**NEED A TRAFFIC COP
TO UNTANGLE YOUR
MATERIAL HANDLING
SYSTEM? Install
THE *Nu-Hy*
GRAIN BUCKET**



SHOWING HOW CLOSELY "NU-HY"
BUCKETS CAN BE SPACED.



Screw Conveyor Corporation
611 HOFFMAN ST. HAMMOND, IND.
ENGINEERS MANUFACTURERS
PRODUCTS

When inquiring specify CP9381 — see information request blank, pgs. 2-3

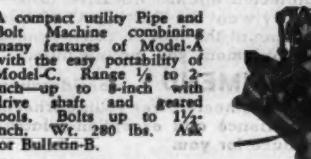
The A-B-C of Pipe and Bolt Machines

Beaver Model-A



A high-speed, heavy-duty deluxe Pipe and Bolt Machine. Range $\frac{1}{2}$ to 2-inch — up to 12-inch with geared tool and drive shaft. Bolt $\frac{1}{2}$ to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

Beaver Model-B



A compact utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range $\frac{1}{2}$ to 2-inch — up to 8-inch with drive shaft and geared tools. Bolts up to $1\frac{1}{2}$ -inch. Wt. 280 lbs. Ask for Bulletin-B.

Beaver Model-C

A sturdy little Power Unit

Converts Hand Pipe Tools into Power Tools from $\frac{1}{2}$ to 2-inches. Threads 8-inch in 6 minutes. Threads bolts up to $1\frac{1}{2}$ -inch. Equipped with automatic chuck wrench selector — a safety feature. Two men can use it at the same time without interference. Easily portable — weighs about 150 lbs. Write for Bulletin-C.



Also — Complete Line of Hand Tools!

BEAVER PIPE TOOLS

544 REVIEW AVE.

WARREN, OHIO

When inquiring specify CP9382 — see information request blank, pgs. 2-3



**SERVES
THEM
RIGHT!**

• American forces
are ready to serve
destruction, thanks to the safe arrival of war materials.

To serve the armed forces with supplies shippers have learned to depend on the readiness of nearby Signode representatives to advise them on the latest and best methods of safe shipping.

For no matter where your plant is located, Signode service is available through strategically located offices in all industrial areas. Your nearby Signode engineer stands ready to suggest practical solutions to your shipping problems. Call him today.

SIGNODE

STEEL STRAPPING COMPANY

2638 N. Western Ave., Chicago 47, Ill.

Brooklyn, N. Y.: 391 Furman St. San Francisco, Calif.: 477 Bryant St. Signode Steel Strapping Meets All Federal Strapping Specifications

31 Branch Offices Throughout The United States and 14 in Foreign Countries

When inquiring specify CP9383 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

NEW LITERATURE

Plug Feed Type Skip Hoist Loading Gates

Plug feed type skip hoist loading gate is described in four page illustrated bulletin. The gate consists of essentially two members — (1) the hopper like upper section which is mounted securely to the underside of the track hopper and (2) a lower pivoting chute member which is hinged from the upper member, the end being held in closed position with a latch. As the skip bucket descends an arm secured to each side of the back of the bucket engages rollers on the pivoted section of the latch permitting it to disengage without friction or banging — the lower pivoting part of the gate then swings downward as the bucket descends, supported on rollers on the bucket, bringing the opening of the pivoting part well inside the bucket. This permits the material to feed from the hopper into the bucket until the skip bucket is filled damming the material in the gate. After a predetermined cause controlled electrically, the bucket starts upward closing and latching the gate in reverse to that in which it is opened. The gates are fabricated of heavy steel plate, amply reinforced with stiffening members. Available in various sizes. The bulletin features a series of photographs showing the operation of the latch on the gate and action of the self-damming feed chute etc. Detailed engineering diagrams and a table giving dimensions of eleven sizes are included in the data. Copies of Bulletin No. 92 — "Plug Feed Type Skip Hoist Loading Gates," on request.

C. O. BARTLETT & SNOW CO., Dept. CP, Cleveland 5, Ohio.

When inquiring specify CP9384 — see information request blank, pgs. 2-3

Installation Accessories for Lubrication, Steam,

Hydraulic, Liquid Air Applications

Sixteen page catalog illustrates and describes installation accessories for lubrication, hydraulic, steam, liquid and air applications. The selection includes coolant spouts, quick contact couplings, distributor manifolds, hose, hose clamps and smubber tools, reusable hose couplings, hose stems, brass pipe fittings, iron pipe fittings, wing ells and couplings, shut-off cocks, swivels, tool flaring, bending and cutting tools, tube clips, compression tube fittings, SAE tube fittings and sleeve type tube fittings. All essential information is completely tabulated. Catalog Number 17 A on request.

J. N. FAUVER CO., INC. Dept. CP, 40 W. Hancock St., Detroit, Mich.

When inquiring specify CP9385 — see information request blank, pgs. 2-3

Standard and Special Electric Trucks

Industrial truck catalog features practical information on material handling with power trucks and is designed to facilitate selection of the proper selection of the proper equipment for any requirements. In addition to the maker's standard trucks, it illustrates many special models which have been designed for unusual handling operations. Low lift, high lift, fork and ram, crane trucks, tractors, platform trucks are all described and illustrated in detail. Copy available upon request. Specify Number 52. BAKER-RAULANG CO., Dept. CP, 2168 West 25th St., Cleveland 13, Ohio.

When inquiring specify CP9386 — see information request blank, pgs. 2-3

Truck Operating Manual For Women

A truck operating manual for women, entitled, "Lady, Will You Give a Lift?" is being reissued. The manual explains the great importance of proper truck operation in industrial plants and tells in non-technical language how women workers should operate their trucks and take care of them. Copies available on request.

ELWELL-PARKER ELECTRIC CO., Dept. CP, 4205 St. Clair Ave., Cleveland, Ohio.

When inquiring specify CP9387 — see information request blank, pgs. 2-3



**In These Installations
and Hundreds More**

* GATES Synthetic Rubber V-Belts

**-Are Outwearing
Any NATURAL RUBBER Belts
Ever Used!**

and heat much better than natural rubber. Where oil and heat conditions are especially severe, Gates special synthetic V-Belts are giving 3 times to 4 times the service life of any natural rubber V-Belt ever used.

The fact that Gates has had such long experience in making V-Belts of synthetic rubber—and that Gates synthetic rubber V-Belts have proved themselves through more than 6 years under the severest service conditions—is of greatest importance to anyone who buys V-Belts today. The advantage of Gates' long head-start and outstanding success in making V-Belts of synthetic rubber can now be put to work for you right in your own plant.

You have only to pick up your telephone directory and call the Gates Field Engineer. He will put at your service the full benefits of Gates' knowledge and experience without the slightest obligation.

THE GATES RUBBER COMPANY
Engineering Offices and Stocks in All Large Industrial Centers

GATES **VULCO**
ROPE **DRIVES**

CHICAGO, ILL.
549 West Washington

NEW YORK CITY
215-219 Fourth Avenue

ATLANTA, GA.
738 C & S National Bank Building

LOS ANGELES, CAL.
2240 East Washington Boulevard

DENVER, COLO.
999 South Broadway

DETROIT, MICH.
8663 Grand River Avenue

PORTLAND, ORE.
333 N. W. 5th Avenue

DALLAS, TEXAS
2213 Griffin Street

SAN FRANCISCO, CAL.
1090 Bryant Street

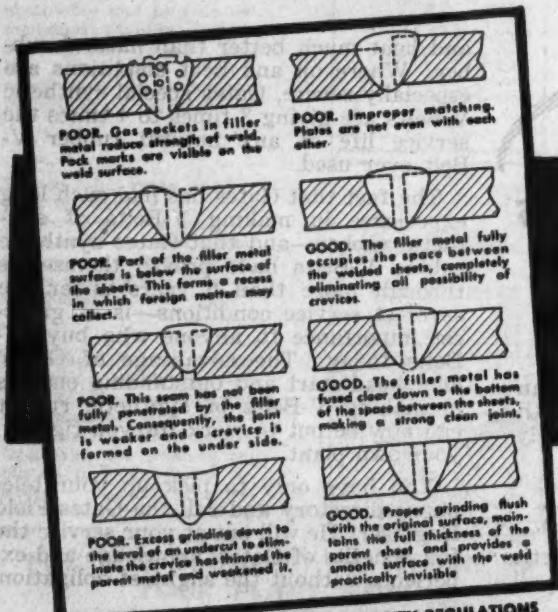
When inquiring specify CP9388 . . . see information request blank, pgs. 2-3

How to CHECK WELDED SEAMS in Stainless Steel PROCESSING EQUIPMENT

Before "inducting" a new processing vessel into war work examine its joints and welded seams. For the life of your equipment depends on the soundness of the welds.

Improper welding can often be recognized with the naked eye. The diagrams below may guide engineers in detecting proper and improper welds.

The most practical way to eliminate the danger of improper welding is to select a fabricator having specialized experience in working with stainless steel. For years, S. Blickman, Inc., has devoted its large facilities mainly to the fabrication of stainless steel equipment in gauges up to $\frac{3}{8}$ " thick. Our *know-how* assures you of processing equipment with welded seams that stand up under wartime production.



ALL ORDERS SUBJECT TO GOVERNMENT PRIORITY REGULATIONS



These diagrams appear as part of the Blickman brochure "What to Look for When You Specify Stainless Steel for Your Processing Equipment". Write for the brochure on your company stationery.

S. BLICKMAN, INC.
1208 GREGORY AVE. WEEHAWKEN, N.J.
TANKS • KETTLES • CONDENSERS • AGITATORS • EVAPORATORS • PANS • VATS • CYLINDERS

When inquiring specify CP9380 — see information request blank, pgs. 2-3

Page 54

NEW LITERATURE

Fluorescent Lighting Equipment

A new line of fluorescent units and continuous wireways introduced under the name Chan'l-Run are described in an illustrated catalog (Number T-44). These are made in standard steel sections of special design. They are equipped with processed Ligniform reflectors and are so rigidly formed that while they conform to WPB steel limitations, only one hanger strap is required for hanging each section and an entire row may be assembled complete with reflectors ready to be mounted and quickly connected to line wire, affording economies in time and labor. Simply designed connecting straps join one section with another but the basic element in the design is the steel channel. For two forty-watt lamps, sections come in two lengths 40 and 96 inches. Similar simplification is indicated in the channels for two 100 watt lamps which are furnished in units of 60 and 120 inches respectively. Copy of catalog sent on request.

HOLDENLINE CO., Dept. CP, 1960 East 37th St., Cleveland, Ohio.

When inquiring specify CP9390 — see information request blank, pgs. 2-3

Prepacking Pointers

Information and case histories to help manufacturers package their products for greater safety in shipment are presented in current issue of series of booklets on packaging. It gives interesting information and illustrations regarding corrugated boxes for prepacking assignments. It reviews the many different types of products, already prepacked and suggests investigation of "prepak" method for future packaging problems.

HINDE & DAUCH PAPER CO., Dept. CP, Sandusky, Ohio.

When inquiring specify CP9391 — see information request blank, pgs. 2-3



Keep Tubes Clean — with AIRETOOL

Tubes used in processing and boiler tubes alike are sabotaged by foreign deposits that impair efficiency. AIRETOOL Tube Cleaners remove the most stubborn incrustations, and are engineered to do it without tracking or any damage to tubes. Power Seal Motor permits use of heavier heads and may be loaded down to 50 rpm without stalling. In sizes from $\frac{1}{2}$ " to 24" I. D., for straight or curved tubes. Write for bulletin.

Have you your
copy of Airetool's
New Expander
Book? If not,
write for it.

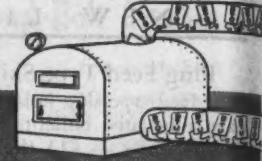
AIRETOOL MANUFACTURING COMPANY

500 Airetool & Test — Superior
Factory Bldgs., SPRINGFIELD, OHIO

When inquiring specify CP9392 — see information request blank, pgs. 2-3

KEEP ALL

YOUR
BTU'S



SCHAUB Heat Reclaim SYSTEM

THE SAME BOILER • THE SAME FULL
Greater Capacity

Keep all your BTU's working for you by returning those you don't use back to the boiler for increased steaming capacity and fuel savings.

The Schaub Heat Reclaim System accomplishes this by a patented heat exchanger which transfers "flash" heat to the feed water on its way to the boiler, allowing the use of additional equipment without using more fuel.

Write today for full information
and descriptive literature.

The Key to Boiler Room Efficiency
SCHAUB SYSTEMS

When inquiring specify CP9393 — see information request blank, pgs. 2-3

Plan Ahead With WAR-TESTED PUMPS "by Aurora"

The splendid record of thousands of Aurora Pumps on a myriad of war services is your assurance that your post-war needs will be taken care of superbly as you, too, install Pumps "by Aurora"—the Products of Experience—made by exclusive builders of fine pumps.

Aurora Deep Well Turbines
for all conditions—4" to 24"



Type AD Hor. Split Case,
Two Stage Centrifugal



Type GMC Close-Coupled Centrifugal



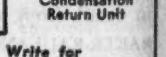
Type GGU Side Suction
Single Stage Centrifugal



APCO TURBINE-TYPE PUMPS—the
simplest of all pumps. Ideal for
small capacity, high head duties.
Silent, compact and lasting.



APCO Single Stage
Turbine-Type



Write for
CONDENSED CATALOG
OR

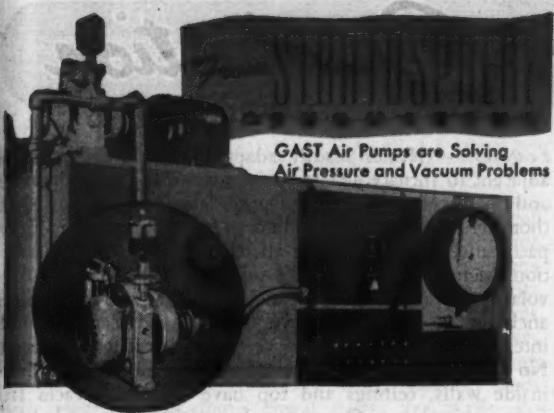
SEE OUR
CATALOG IN
SWEET'S

AURORA Always
PUMP COMPANY

62 Loucks Street, AURORA, ILLINOIS

When inquiring specify CP9394 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW



GAST Air Pumps are Solving Air Pressure and Vacuum Problems

Your Problem May Not Be 8 Miles UP—like this one!

This Gast Vacuum Pump (25FF70-VC) plays an important part in a stratosphere test chamber for duplicating, in the laboratory, conditions found at altitudes up to 40,000 feet. This testing equipment is now standard in many plants making aircraft parts and instruments.

Other Gast Rotary Air Pumps and Air Motors are meeting equally unusual requirements for the war effort and industry on applications ranging from submarine tenders to vacuum

brake boosters, milking machines, and agitator units in chemical plants. In your power problems, consider the trend to air and consult Gast engineers for suggestions. Write for catalog of Gast Rotary Air Pumps (interchangeable for vacuum or air compression) and Gast Air Motors

Address: GAST MFG. CORP.
101 Hinkley Street
Benton Harbor, Mich.



When inquiring specify CP9395 — see information request blank, pgs. 2-3

PLASTIC Pipe, Tubing, and Fittings

Keeping abreast of new developments in the piping field, Grinnell now offers Plastic Pipe, Tubing and Fittings for the various applications where its special advantages provide improved performance and economy.



Write or call
the Grinnell office
nearest you.

GRINNELL
WHENEVER PIPING IS INVOLVED

GRINNELL COMPANY, INC.
Executive Offices, Providence 1, Rhode Island
SALES OFFICES: Atlanta 2, Ga., Charlotte 1, N. C., Chicago 9, Ill., Cleveland 14, Ohio, Houston 1, Texas, New York 17, N. Y., Minneapolis 15, Minn., Philadelphia 34, Pa., St. Louis 10, Mo., St. Paul, Minn.

When inquiring specify CP9396 — see information request blank, pgs. 2-3

MAY-JUNE, 1944

NEW LITERATURE

Industrial Combustion Data

A handsomely bound book of over 100 pages, size 8 1/2 x 11 inches titled "Industrial Combustion Data" is really a practical reference work on the determination, selection, installation and operation of combustion equipment, either oil or gas on furnaces, ovens, retorts and other heat process equipments. Section on oil burning tabulates fuel oil standards, discusses atomization, compares various types of burners and their selection, oil pressures, air for combustion, combustion space and flue areas; also the oil supply system, oil pumps, valves, gauges and piping systems. Section on gas deals with gas fuels, systems, operations and provides mixer capacity selection table and other data.

HAUCH MFG. CO., Dept. CP, 124 10th St., Brooklyn, N. Y.

When inquiring specify CP9397
— see information request blank, pgs. 2-3

Shipping Containers

Booklet illustrates and describes many types of boxes for domestic service and also export boxes of nailed and wire-bound construction. Measurements and complete information are presented. Some of these containers are being used for overseas shipment handling coils of strip steel weighing 850 pounds. These boxes were specifically engineered for the product for rigid support and minimum weight. Copies on request.

GENERAL BOX CO., Dept. CP, Chicago, Ill.

When inquiring specify CP9398
— see information request blank, pgs. 2-3

Dispenser For Salt or Salt and Dextrose Tablets

Bulletin describes all plastic salt tablet dispenser, complete with salt tablets, available in two sizes, 1500 and 350 tablet capacity. All plastic construction discourages condensation of moisture. Top locks with key to prevent tampering. Transparent window permits quick inspection to check supply. Refill packages of either salt or combination salt and dextrose available.

STANDARD SAFETY EQUIPMENT CO., Dept. CP, 232 W. Ontario St., Chicago 10, Ill.

When inquiring specify CP9399
— see information request blank, pgs. 2-3

Fan Units Arrest Fly Nuisance
Compact fan unit projects and deflects air in such a manner as to keep flies from entering through doorways and also keep them away from areas in plants where food is being processed or handled in dairies, bakeries, candy kitchens, etc. Fully described in eight page bulletin which also illustrates the many ways in which units may be installed to meet specific requirements.

REYNOLDS ELECTRIC CO., Dept. CP, 2650 Congress St., Chicago 12, Ill.

When inquiring specify CP9400
— see information request blank, pgs. 2-3

It says

"STOP" to Solids—
"GO" to Fluids



A BETTER Strainer to "police your pipelines"

• **FIRST**—*The Screen*, a high-grade woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.

• **SECOND**—*Finish*. Cadmium plated inside and out for protection against corrosion.

• **THIRD**—*Easily Cleaned*. Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.

• **THOUSANDS IN SERVICE**—Sold by over 100 Mill Supply Houses.

6 sizes from 1/2" to 2" for pressures up to 600 lb. Reasonably priced. See your supply house or write for Bulletin S-200.

YARNALL-WARING COMPANY
125 Mermaid Ave. PHILADELPHIA 18, PA.



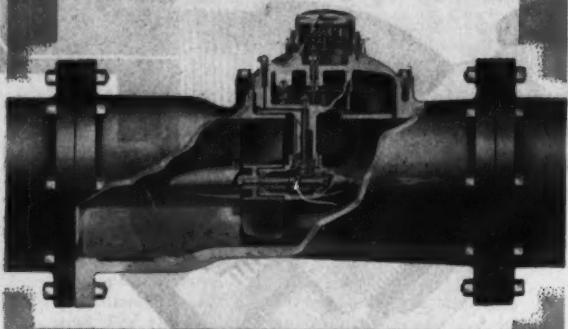
YARWAY STRAINERS

When inquiring specify CP9401 — see information request blank, pgs. 2-3

Page 35

BLUE PRINT NOW

BUILDERS Propeloflo



New!

An improved totalizing propeller type flow meter with streamlined Venturi design. Accurately measures flow in main water lines. Ample power for pacing proportional chemical feeders.

- **ACCURATE** — Venturi design creates uniform velocity distribution.
- **ECONOMICAL** — low in price, simple to install.
- **EASY MAINTENANCE** — one-shot lubrication, readily accessible stuffing box.
- **DIRECT READING** — six digit counter records directly in gallons.
- **LOW LOSS OF HEAD** — not over one-half foot of water at normal maximum flow.

Send for descriptive bulletin No. 350. Address Builders-Providence, Inc., 51 Codding Street, Providence 1, R. I.

Sincerely yours,

BUILDERS-PROVIDENCE

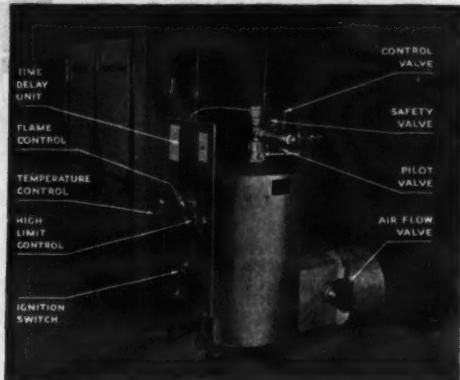
When inquiring specify CP9402 — see information request blank, pgs. 2-3

Page 56

Equipment for Production

Baking, Heat Treating Ovens With Convenient, Precision Controls

May be easily dismantled and moved; heater is easily adapted to installation requirements



OVEN, HEATER AND CENTRALIZED CONTROLS

Uses — The various ovens in line include equipment for heat treating, foundry core and mold, cabinet and paint, drying, baking units.

Features — Heater readily adapted to different positions adjacent to furnace and to various types and sizes of ovens and furnaces. All parts, large, small or intricate are thoroughly processed regardless of position in oven. Compact panel board mounting all instruments. Most installations include exhaust fan for positively expelling moisture, volatile vapors. Oven panels rest in metal channels anchored to floor and have tongues and flanges which interlock and form a strong vertical support at each point. No additional bracing or reinforcing are necessary and the inside walls, ceilings and top have smooth surfaces free from projections. Ovens may be quickly dismantled and moved.

Description — Walls and top are made up of sheet metal panels filled with insulating bats of high thermal efficiency. Direct fired air heater is of the atmospheric pull-through type equipped with intakes for both fresh air and recirculated air. The gas is burned and the heat generated within a refractory combustion chamber. Heater, in conjunction with fans, automatically controlled. Illustration shows typical installation (in this case a foundry oven) with control board. In addition to gas fired heaters, requirements including systems using electricity or steam as heating medium may also be met. Literature on request.

LANLY CO., Dept. CP, 750 Prospect Ave., Cleveland, Ohio.

When inquiring specify CP9404 — see information request blank, pgs. 2-3

BUSCHMAN

PORTABLE
Conveyors



Load and unload by GRAVITY
Boxes
Crates
Cartons
Packages
to and
from
Production
lines
Stores
Trucks
Box-cars
Loading
Platforms

In Stock
for
Immediate
Delivery

•
Write for
Bulletin 6
showing
many
applications

DON'T carry packages. Do away with time-wasting handling and rehandling. Transport packages by gravity with Buschman Portable Conveyors.

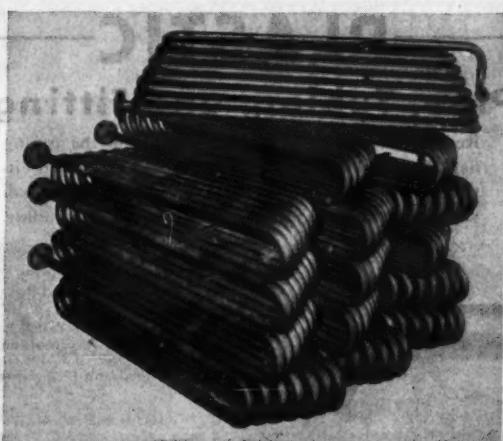
In 10-ft. straight and curved sections. Mounted on easels or tripods. Set them up where you need them. Quickly, easily changed from one location or application to another. No tools required for coupling sections or adjusting height. Ideal for narrow aisles, doorways, crowded quarters. Low in cost!

THE E. W. BUSCHMAN COMPANY, Inc.

415 New Street

Cincinnati 2, Ohio

When inquiring specify CP9403 — see information request blank, pgs. 2-3



14 GAUGE TUBING

These coils are made from type 304 stainless steel, have 14-gauge wall, 1 1/2" diameter, and bend on 3" radius.

25 years of fabrication with all grades of alloys is available for special work.

Write for Bulletin CP 30

ALLOY MANUFACTURING CO.

30th Street

Pittsburgh, Pa.

When inquiring specify CP9405 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

Automatic Weighing, Packaging of Dry Materials — 1 Oz. - 3 Lbs.

Chemicals, drugs, plastic powders, dye stuffs, dry paints, metal parts

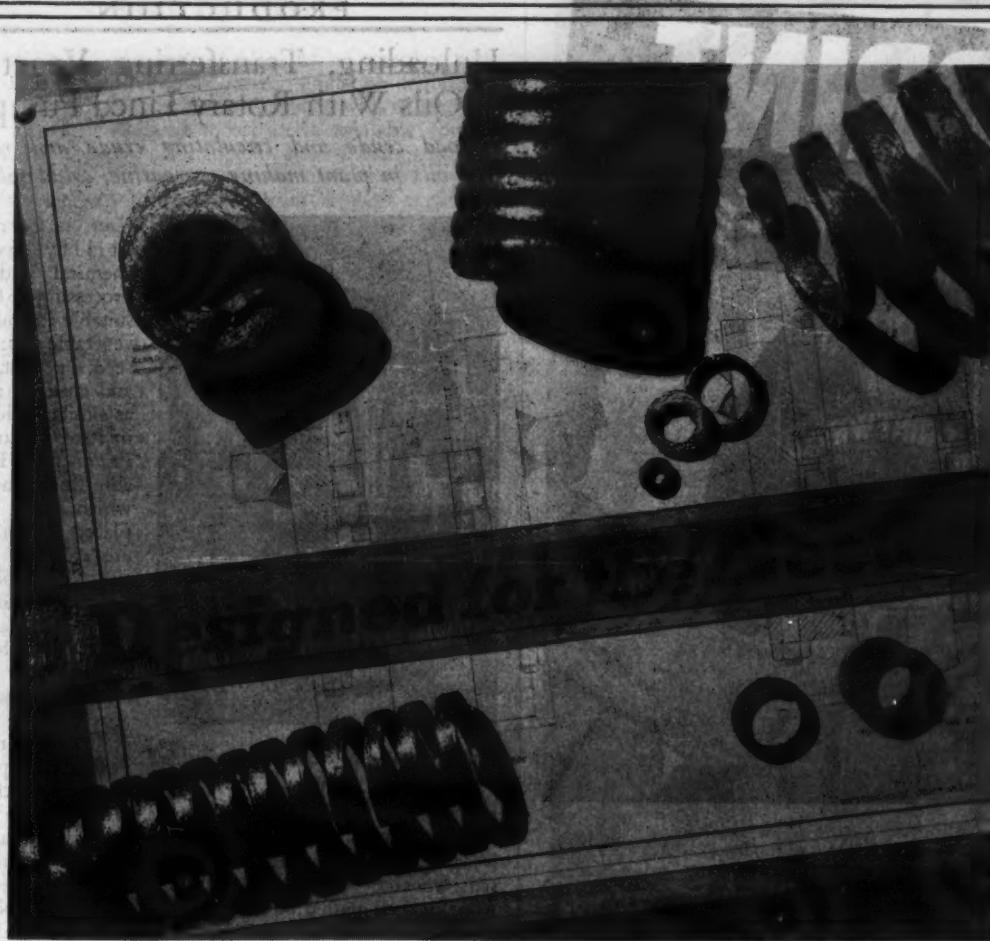
Uses — For weighing, filling, measuring food materials and products in production and packaging operations. Materials handled include: barley, beans, confections, cereals, dried fruits, frozen foods, seeds, spices, grits, meals, flours, gelatin and malted milk powders, soup mixes, dehydrated foods, nut meats, cookies, noodles, crackers, coffee, tea, chicory and most grocery staples. Units are available for handling chemicals, drug, tablets, seeds, plastic powders, calcamine, metal parts, dye stuffs, dry paints.

Features — Each unit offers flexibility that permits quick and exact adaptation to requirements imposed by changes in nature of packaging operations. Automatic operation speeds work, eliminates errors and employs fatigue. Machines available to handle as little as one ounce per discharge or as much as three pounds. Compact, streamlined design saves floor space, simplifies maintenance and cleaning.

Description — Units in this line include electric, automatic net weigher which weigh and fill materials in powdered or piece form into bags or cartons. Material is placed in the hoppers at rear of machines and automatically conveyed to weighing mechanisms at the top of the units. Weighed load is discharged automatically, the two sections of the unit alternating. Production is from 18 to 28 packages per minute. Machines of this type are built to handle a large range of package sizes, from one ounce to three pounds. Floor space required for such units 3 x 9 feet. Height is 6 feet. Machine shown in accompanying photo is a completely automatic five section packer-weigher with automatic conveyor for filling coffee cans, (Morey Mercantile Co., Denver,) at rate of 60 cans per minute. Machines like this are available for handling as little as two ounces or up to two pounds. Space required 10 x 4 feet. Literature describing "Elec-Tric-Pak weighers, volumetric fillers, packers, conveyors, carton sealers and complete automatic high speed packaging systems on request.

TRIANGLE PACKAGE MACHINERY CO., Dept. CP, 920 Spaulding Ave., Chicago 51, Chicago, Ill.

When inquiring specify CP9406 — see information request blank, pgs. 2-3



THE DURAMETALLIC TWIST
1. Processed to retain lubrication.
2. Provides readier response to gland pressure.
3. Distributes frictional load over several diagonally wrapped metallic sheets.
4. Originated by DURAMETALLIC.

DURAMETALLIC PACKINGS ARE ENGINEERED FOR THE JOB . . .

Any user of Durametallic Packings will tell you that it pays to use the **RIGHT** type of packing to meet the need. The more difficult the problem, the greater the chances are that you need **DURAMETALLIC PACKINGS** to provide effective sealing for longer uninterrupted runs.

Write Today for Recommendations on the Right Type of Packing for YOUR Needs.

DURAMETALLIC CORPORATION

KALAMAZOO

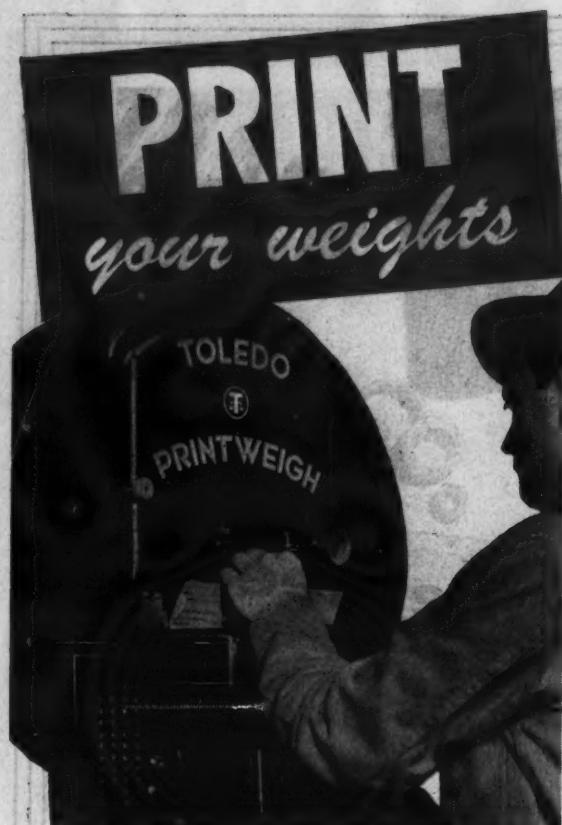


MICHIGAN

HOUSTON • LOS ANGELES • CHICAGO • NEWARK • NEW ORLEANS • PITTSBURGH • DETROIT
SAN FRANCISCO • SEATTLE • ST. LOUIS • TULSA • MONTREAL • YOUNGSTOWN, O. • FREDERICKSBURG, VA.
KANSAS CITY • MINNEAPOLIS

AUTOMATIC UNIT weighs, fills fine ground, whole bean, steel cut coffee in five one pound cans at once

When inquiring specify CP9407 . . . see information request blank, pgs. 2-3



STOP ERRORS START COST RECORDS RIGHT

Bridging the gap between weighing and bookkeeping... **TOLEDO PRINTWEIGH** gives you indisputably accurate printed records of each weighing operation.

Simple—even with green help, long hours, greater fatigue and wartime speed—**PRINTWEIGH** keeps weight records straight.

Rapid—puts accurate, printed-weight records in the operator's hand with split-second speed!

Dependable—prints BIG figures... unmistakably big... on thick tickets... on large or small sheets... on strips... with extra copies.

Accurate—backed by more than 20 years of Toledo Research and Engineering in weight-printing. Thoroughly proved throughout industry, Printweigh is adaptable to scores of weighing operations. Toledo Scale Company, Toledo, Ohio... Sales and Service in 181 cities.

TOLEDO
PRINTWEIGH
SCALES

When inquiring specify CP9409—see information request blank, pg. 2-3

Page 58

PRODUCTION

Unloading, Transferring Vegetable Oils With Rotary Lined Pumps

Unload crude and circulating crude and refined oils in plant making margarine, salad oils



200 GPM lined unit circulates vegetable oils

et fits loosely into recess in the rotor. In operation the tip of the bucket is in light contact with the casing wall. As wear occurs the buckets swing out farther maintaining the same contact. To replace buckets, head plate is removed, worn buckets pulled out and new ones inserted. No tools are required and piping and drive are not disturbed.

Application—Installation of these pumps in large plants specializing in margarine, salad dressing, mayonnaise, salad and edible oils illustrates manner in which they are used to meet handling requirements imposed by properties of the materials and production schedules. Some of these oils are heavy and generally difficult to handle such as winterized salad oils. Heavy soap stocks are also handled in this plant by two 200 GPM lined pumps at rate of 500 pounds per minute. Crude vegetable oils are processed under twenty-four hour laboratory control subject to laboratory approval. Some of these pumps are used in unloading crude oil and still others in circulating vegetable oils. (Illustrations and data cited courtesy Blanton Co.,—Food Products and Vegetable Oil Refiners, St. Louis, Mo.)

Description—The pumps referred to here are included in a complete line of general utility pumping units. Pumps have sleeves bearings; horizontal suction and discharge connections with or less relief valves. Removable liners



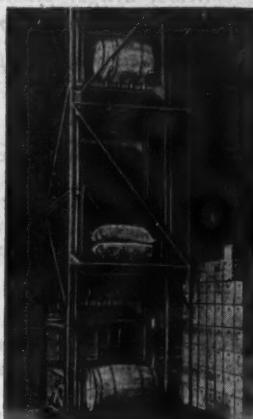
100 GPM units pump winterized oil to tanks

Speed Handling of Barrels, Boxes, Bags

Quicken the flow of packaged materials inside your plant. From receiving-to-storage-to-process, Gifford-Wood tray elevators provide speedy bulk handling, avoiding congestion and raising capacity without increasing manpower.

G-W machines elevate and lower goods between floors, or lower only. Elevators may be designed to handle uniform loads, or a wide variety of sizes and shapes. Loading and unloading is automatic with this inexpensive equipment.

See a Gifford-Wood engineer about a labor-saving tray elevator in your plant.



Catalog 200 gives details on handling equipment for any industry. Write for a copy.

GIFFORD-WOOD CO.

420 Lexington Ave.

Founded 1814
HUDSON, N. Y.

565 W. Washington St.
Chicago 6

When inquiring specify CP9409—see information request blank, pg. 2-3

SAVE MAN-HOURS INCREASE OUTPUT

by automatic timing of
MOTORS Control starting, stopping, running and sequence.

ALARMS Bells, lights or horns signal critical periods.

VALVES Actuate motorized or solenoid valves exactly on time.



MAIL COUPON
FOR FREE DATA

"Vernier-Set" Timer, extremely accurate, easily installed, requires no lubrication. Telechron motor-operated, SPDT contact action, resetting or non-resetting upon power interruption. Dials from 0-15 sec. to 0-60 hrs., timed period set easily with knob. Operates from 110 or 220 V., AC; large silver contacts carry 25 amps. at 110 V., AC or 1 amp. at 110 V., DC. Thousands now serving industry dependably.

Send me free copy of Catalog 810 giving detail data on your "Vernier-Set" Timer, and let me have more information concerning their application to the following items which I've checked (✓).

MOTORS Name.....

ALARMS & SIGNALS Firm.....

VALVES Address.....

CP

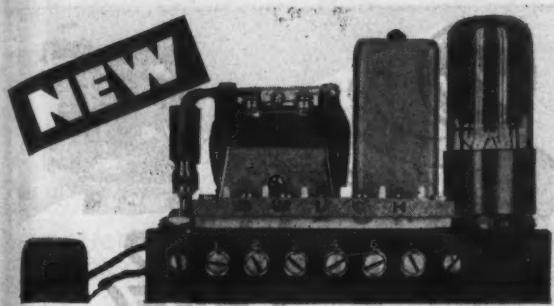


ATC Industrial Controls

AUTOMATIC TEMPERATURE
CONTROL COMPANY, INC.
34 E. LOGAN STREET, PHILA. 44, PA.

When inquiring specify CP9410—see information request blank, pg. 2-3

CHEMICAL PREVIEW



AN ELECTRONIC CONTROLLER USING BRISTOL FREE-VANE PRINCIPLE

This new instrument is furnished in recording and indicating models for control of temperature, pressure, liquid level or humidity. No maintenance or oiling is required. No daily adjusting is necessary.

Write for Bulletin B220 for complete details. Address The Bristol Company, 141 Bristol Rd., Waterbury 91, Connecticut.

BRISTOL automatic CONTROLLING AND RECORDING INSTRUMENTS

THE BRISTOL COMPANY
WATERBURY 91, CONNECTICUT
The Bristol Co. of Canada, Ltd. Bristol's Instrument Co., Ltd.
Toronto, Ontario London, N. W. 10, England

When inquiring specify CP9411 — see information request blank, pgs. 2-3

For users of SEAMLESS TUBING



It's packed with helpful information.

Discusses properties of cold-worked seamless tubing... tells how to figure bursting and collapsing pressures... provides concise data for machining and thread cutting... welding and brazing... bending and coiling.

Bulletin T-17, "Fabrication of Monel, Nickel and Inconel Seamless Pipe and Tubing," may aid in clearing up specific problems that you now face.

A copy is yours for the asking. Write for it today.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York 5, N. Y.

* * * **INCO NICKEL ALLOYS** * * *

Monel • "K" Monel • "B" Monel • "K" Monel • Inconel • "Z" Nickel • Nickel Sheet... Strip... Rod... Tubing... Wire... Coatings

When inquiring specify CP9412 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

PRODUCTION

and/or steam jacketed heads. All units are complete with pump; inclosed oil-immersed drive, single or double reduction; mounted on a common bed-plate with or ready to receive power. Gearhead motor drive available for all sizes. Other food liquids handled by these pumps include beer, catsup, fish oils, grape juice, molasses, soups, syrups, tomatoes, vinegar. Literature and information regarding specific requirements on request.

BLACKMER PUMP CO., Dept. CP, Grand Rapids 9, Mich.

When inquiring specify CP9413 — see information request blank, pgs. 2-3

Compact Infra-Red Plastic Powder Unit Has Capacity of 50 Lbs. Hr.

For drying, preheating, dehydrating plastic powder and similar products



INFRA-RED UNIT & BENCH TRUCK

vibrations per minute. Dial control on side starts and stops feed instantly and changes speed at will. Consumes only 45 watts and is firmly attached to heavy steel trough formed of $\frac{1}{8}$ in. plate. All parts of machine inclosed but sides above inclined trough hinged for ready access from either side.

Description — Capacity fifty pounds per hour. Power connection: at top 220 v. standard. Lamps, Mazda, sealed-in reflector type, 250 watts, 94% efficient. Life 5000 hours. Eight furnished. Insulated reflective heat unit suspended with four combination lamp-saver shock absorbers and "distance-away" adjustments, varies the heat which is also controlled by four switches, each operating on two lamps. Eight lamps make possible heats of 300, 1000, 1500 or 2000 watts. Temperature range 70 to 300 degrees F. Blower fan is 1/20 HP. Suspension: May be hung from ceiling or attached to machine. Holes provided in frame for such purposes. Handle pans capacity 10 lbs. each. Molding machine hopper feed easily attached. Temperature control, extra. Unit can be mounted on bench truck, (illustrated) at extra cost. Unit weighs 400 lbs. Dimensions: 36 in. high, 18 in. wide, 4 ft., 6 in. long.

INFRA-RED ENGINEERS & DESIGNERS, Dept. CP, 1633 E. 40th St., Cleveland, Ohio.

When inquiring specify CP9414 — see information request blank, pgs. 2-3

FREE!

SEND COUPON
SEE HOW YOU CAN SAVE
ON CARTON SEALING —

SAVE LABOR OF
2 PERSONS

General Super-
intendent, Promi-
nent Manu-
facturer

CUT LABOR AND
MATERIAL COST 25%

A Midwest Canning
Company

OPERATORS PREFER
SILVERSTITCHER

A Western Paper
Manufacturer

INCREASE SHIPPING
OUTPUT 50%

Manufacturer of Stencil
Machines

RESULTS WERE
ASTOUNDING!

A Southern Candy
Manufacturer

SEND COUPON
SEE WHY!

Here's a Free Folder
—One you need in
your business. . . .
It covers quick, easy
carton stitching . . .
and at a saving in
time and labor. It
describes Acme Sil-
verstitchers—made to
meet particular stamping
problems—in many
standard models as well as special
machines.

Silverstitchers are
sturdily built—easily
operated and present
exclusive features
that mean long life
and easy operation—
all are sold
under guarantee.
Send coupon and get these
money-saving hints
free.

ACME SilverStitcher

ACME STEEL COMPANY, 2808 Archer Ave., Chicago 8, Ill.
Please send free folder on How to Save on Carton Sealing.

Name _____

Company _____

Address _____

City _____ Zone _____ State _____

When inquiring specify CP9415 — see information request blank, pgs. 2-3

Page 59



CHIKSAN solves another problem

AIR, COOLANT AND CUTTING FLUID LINES FOR MACHINE TOOLS WITH Controlled Flexibility

Hose lines carrying air, coolant and cutting fluids need no longer be draped in festoons over your machine tools... and held in place by wire or string!

Replace your leaking air lines, using CHIKSAN Ball-Bearing Swivel Joints, pipe and short length of air hose you have on hand. Counter-balance Swivel Joints automatically swing air lines out of the way, yet within easy grasp.

Chiksan Ball-Bearing Swivel Joints for coolant and cutting fluid lines automatically keep these lines where you want them. Just swing the line into position and it "stays put."

Chiksan Ball-Bearing Swivel Joints for machine tools eliminate hose replacements for the life of your machines. They are typical examples of how Chiksan Joints solve every problem where controlled flexibility is required. Over 500 different Types, Styles and Sizes for every purpose. Write for latest Chiksan Catalog and Engineering Data.

CHIKSAN REPRESENTATIVES IN PRINCIPAL CITIES

CHIKSAN TOOL COMPANY
Ball Bearing SWIVEL JOINTS
FOR ALL PURPOSES
BREA, CALIFORNIA

When inquiring specify CP9416 — see information request blank, pgs. 2-3

Page 50

PRODUCTION

End Tensioned Deck Maintains Uniform Bed Depth in Screens

Deck can be used for wet or dry screening and washing and dewatering processes

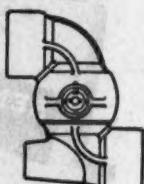


Uses — For wet and dry screening, washing and de-watering processes. Applications in chemical, food, coal, metal and rock industries.

Features — Uniform bed thickness of material is maintained by employing a series of longitudinally tensioned, transversely flat screen surfaces.

Transverse arching of screen surface eliminated.

Description — The screen is tensioned by clamp bars at the end of the screen and by intermediate adjustable bars when more than two screen sections are used. A feed distribution plate is provided where feed enters screen, distributing material over entire width of screen. The longitudinal tension permits use of elongated openings parallel to the length of screen to obtain higher capacity. Transverse supporting bars on the underside of the deck are covered with molded rubber strips, and act as individual



STOP Chemical Injuries

WITH THESE MODERN

SAFETY DEVICES

CESCO No. 750 Face Shield

There's no "give" in this CESCO General Utility Face Shield. It can "take it" — repels splashes, sparks, metal chips. Extremely light weight, with metal-bound window for added strength. Makes workers confident of utmost face and eye protection, as well as comfort.



CESCO No. 94 Respirator

Here is an anti-fume respirator that FITS better, offers more COMFORT to the wearer! And, as an assurance of SAFETY, it carries the approval of the U. S. Bureau of Mines (No. BN-2342) for protection against Type A (silica) lead and nuisance dusts. It functions with a high degree of efficiency, making it unnecessary to change filters under average working conditions. Its unusually large filtering area (40 square inches) promotes easier breathing. The new style exhale valve has a speaking diaphragm which permits normal conversation.

Write for CESCO's catalog and circular today.

CHICAGO EYE SHIELD CO.
6888 1337 Warren Boulevard • Chicago 12, Illinois

CESCO FOR SAFETY

When inquiring specify CP9417 — see information request blank, pgs. 2-3



These are the original electric liquid level controls, pioneered by us in 1933. They have no floats — no vacuum tubes — no moving parts in the liquid. They control variations of levels of $\frac{1}{4}$ " or more, and are not affected by pressures, temperatures, acids or caustics. Relay can be located any distance from the electrode.

WRITE FOR CATALOG

CATALOG 943 contains complete technical descriptions of the many types available, together with wiring diagrams for various installations. Get full information on B/W controls. WRITE FOR YOUR COPY TODAY!



CONTROLLER CORPORATION

CHEMICAL PREVIEW, 2204 E. Maple Road, Birmingham, Mich.

FIRST IN THE FLOATLESS CONTROL FIELD

When inquiring specify CP9418 — see information request blank, pgs. 2-3

Faratron, Electronic Level Controls

For ALL TYPES OF LIQUIDS In TANKS, VATS, RESERVOIRS, BOILERS, KETTLES, COOLERS, CANS, FREEZERS, PASTEURIZERS

Absolutely Accurate
No Moving Parts
No Floats

The FARATRON ELECTRONIC LIQUID LEVEL CONTROL accurately indicates or regulates either fullness or emptiness or both, by signals or by operation of valves or pumps. Non mechanical. Absolutely sanitary. Unaffected by pressure or temperature. Easily installed — needs no attention. Most economical. Write for Bulletin 1447 for details.

Lumenite Electronic Co.
407 S. Dearborn St.
Chicago 5, Ill.



When inquiring specify CP9419 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

drip strips to assist in more efficient draining of the material. The feed end of each section can be furnished with a blank surface designed to obtain a pool washing effect for scrubbing and scouring the material. Sections of the deck may be turned end-for end and up-side-down for longer screen life. Bulletin B-6321 on request.

ALLIS-CHALMERS, INC., Dept. CP, Milwaukee 1, Wis.

When inquiring specify CP9420 — see information request blank, pgs. 2-3

Rubber Filter Material Meets Highly Specialized Requirements

Used in preparation and administration of blood plasma; also applicable to industrial uses

Uses — Now being used by chemical plants, food processors, pharmaceutical manufacturers, liquor distillers, coal and iron mines and steel mills. It serves in the purification of insulin. A most important application is in the preparation and administration of blood plasma and whole blood as used in modern methods of transfusion. The filters serve to separate blood clots from whole blood, and "veils" or cloudiness which sometimes form in blood



LATEX SPREAD ON RUBBER BLANKET in making rubber filter material

plasma. Practical industrial applications are recovery of coal dust in soft coal mines from processing water and in silver plating motor bearings (see cover illustration).

Features — Material contains as many as 6400 microscopic holes per square inch. Filter screens are made in either hard or soft rubber, and may be compounded to resist abrasion, high temperatures, alkaline and acid solutions as well as certain oils and greases.

Description — Development is outgrowth of research to eliminate tiny holes that presented a difficulty in waterproofing raincoat fabric. Reversing findings to create as many small holes as possible resulted in successful production of sheets containing 6400 perforations per sq. inch. Latex is spread on a cured rubber blanket containing the desired number of microscopic pits uniformly distributed. When this is treated, the air trapped in each pit is expanded and blows a hole through latex film. (Since the material is made of natural latex rubber it can be applied at present only to most important products.)

UNITED STATES RUBBER CO., Dept. CP, Rockefeller Center, New York, N. Y.

When inquiring specify CP9421 — see information request blank, pgs. 2-3

TRANSMISSIONEERED MEANS ADVANCE DESIGN IN POWER DRIVES

Transmissioneering Delivers More Pulling Power with D-V Drives...

Grip and pulling power are Transmissioneered into Dodge D-V Drives. They combine the V-Belt's transmission capacity, resilience, and ability to absorb sudden shocks with the high efficiency of transmissioneered, precision-built sheaves.

A perfectly matched team—precision-grooved D-V Sheaves with full contact D-V Belts—give "Matched Quality" performance, negligible slippage loss and an even division of the load among fully seated, tightly gripping individual belts. D-V Drives are easy to install and maintain. Their smooth pick-up of the load and relatively low tension make them easy on the driving motor.

The Dodge Transmissioneer—your local Dodge Distributor—can furnish, usually out of stock, D-V Drives complete with belts and sheaves. He will gladly work with you to select "The Right Drive for Every Job".

DODGE MANUFACTURING CORPORATION
MISHAWAKA, INDIANA, U.S.A.



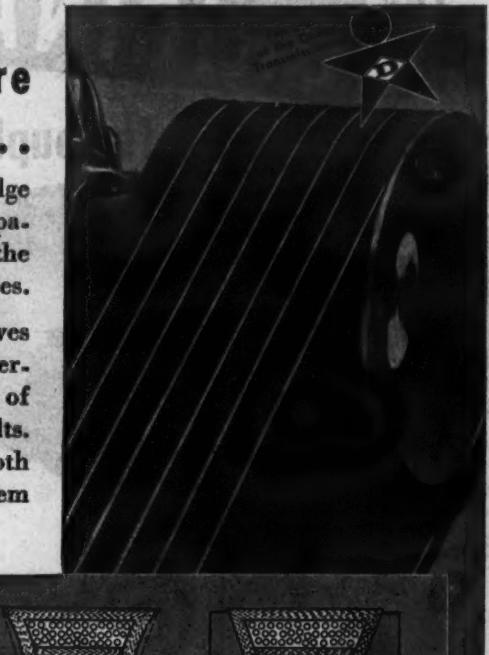
THE SIGN OF THE DODGE TRANSMISSIONEER

No. 6

... BUY MORE WAR BONDS



... THE RIGHT DRIVE FOR EVERY JOB



Dodge D-V Belts are Transmissioneered for maximum grip. Sidewalls are built concave to flatten out to flexing around the sheave and give full contact with sides of groove.



Dodge "Matched Quality" D-V Drives combine D-V precision-made sheaves and rugged D-V Belts. This means uniform seating of belts—equalization of load—no loosing belts. Results in maximum power transmitted — longer belt-life.



This is what happens when sheave grooves are not uniform. Belts do not seat properly — pull unevenly. This means reduced power transmitting capacity, uneven wear, and shortened life.



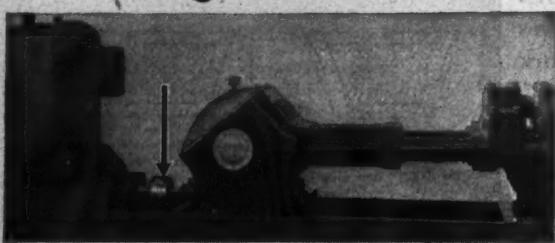
When inquiring specify CP9422 . . . see information request blank, pgs. 2-3

The ORIGINAL Chain Type Shaft Couplings

with DIAMOND
Double Strand
Roller Chain



Removal of one pin disconnects the coupling.



Gas Pump driven by 50 H.P. engine using Diamond Flexible Shaft Coupling.

• Diamond Roller Chain Type Flexible Couplings were the first of their kind—used by the tens of thousands for a quarter of a century... Simple and rugged—just two sprockets and a length of double-strand DIAMOND Roller Chain. Clearance between the steel sprockets and the roller chain sideplates permits freedom of movement and adjustment to angular misalignment of shafts and end play... Removal of one chain connecting link is all that need be done to separate the driving and driven units... Diamond Shaft Couplings will meet your requirements—they are made for fractional horsepower drives and up to 500 H.P. Let us mail Coupling Bulletin No. 12. DIAMOND CHAIN & MFG. CO., 411 Kentucky Ave., Indianapolis 7, Indiana.



Diamond Flexible Coupling (case removed) on Master Generator Set driven by 3 H.P. engine.



Apex Rotary Pump with Diamond Flexible Coupling encased.

DIAMOND FLEXIBLE COUPLING

When inquiring specify CP9423 — see information request blank, pgs. 2-3

Page 62

PRODUCTION

Cold Cathode Fluorescent Units
Starters eliminated; surface brightness substantially reduced; operate at low room temperatures



COLD CATHODE UNIT

Uses — For industrial lighting in providing longer lamp life and great capacity per unit, where substantial reduction in sur-

face brightness is a factor.

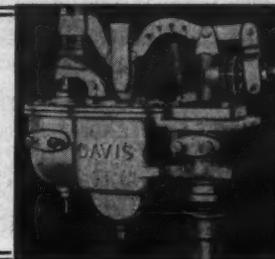
Features — Starters are eliminated and starting is instantaneous, no flickering. Average lamp life expectancy is about 10,000 hours. Operates at low room temperatures. One fixture delivers 9800 lumens of light.

Description — Operates on regular 110-125 volts AC. In appearance and general lighting qualities the cold cathode lamps are similar to the conventional "F" type lamps except that they are 7 feet, nine inches long, one inch in diameter and employ a different type of cathode (or filament) at the tube ends. The fixture uses four "colovolt" cold cathode low voltage fluorescent tubes. Mounting brackets and knock-outs are provided. It has a sturdy constructed heavy gauge steel wireway channel, with two duo ballasts on top "exposed" for greater air circulation. The reflector is non-metal lumenite. Model 2081 operates from ordinary 110-125 volts, 60 c. AC. Power factor 99%. Stroboscopic corrected.

MITCHELL MFG. CO., Dept. CP, 2525 No. Clybourn Ave., Chicago 14, Ill.

When inquiring specify CP9424 — see information request blank, pgs. 2-3

Make it Automatic with Davis Solenoid Valves



Davis
No. 97TH
two-step
solenoid
valve for use
wherever
processing
requires
propertizing
or heating
of liquid
flow.

Freedom from manual control and from fear of disastrous failures is yours when you specify Davis Solenoid Valves. These valves are available for steam, gases and liquids in sizes from 1/2" to 12" and pressures to 1500 lbs. Any device capable of making or breaking an electrical circuit will operate Davis valves. Operated either normally closed or open, they can also be equipped with explosion proof solenoid boxes.

Wherever an automatic valve will improve your piping system, be sure to write Davis engineers for recommendations. You'll be certain that Davis will furnish the right valve for the job. Informative literature available.

DAVIS REGULATOR COMPANY

2562 S. Washtenaw Avenue

Chicago, Illinois

When inquiring specify CP9426 — see information request blank, pgs. 2-3

ARE YOUR REFERENCE FILES COMPLETE?

Not unless
you have this
new and complete
catalog on
**BECKMAN pH
EQUIPMENT**



WITH pH control playing an increasingly vital role in so many production and processing operations—wherever water or water solutions are used in plant operations—you should have this helpful, informative pH catalogue in your files for quick reference...

- It lists and describes over 60 regular and special purpose pH electrodes for a wide range of industrial as well as laboratory pH work.
- It gives important facts about Beckman Laboratory, Industrial and Automatic pH instruments and accessories.

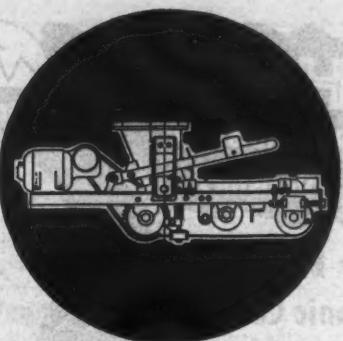
Whether you are now using pH control or are contemplating the installation of pH equipment, you will find this booklet a valuable reference guide to the latest developments and accessories for modern glass electrode pH control. Ask for Beckman Bulletin #86. Sent free as long as the limited supply lasts!

BECKMAN INSTRUMENTS
NATIONAL TECHNICAL LABORATORIES
South Pasadena • California

INSTRUMENTS CONTROL MODERN INDUSTRIES

When inquiring specify CP9427 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW



A Feeder that does the "Impossible"

No one would believe that a Hardinge Constant Weight Feeder installed in front of almost any Pulverizer will increase the capacity of that pulverizer 10 to 25% — unless he installed a feeder for his own use or checked the results of others. That is not all! A record of the weight fed is kept also. The unit is sturdy and inexpensive.

When an item costing 5% of the unit it serves can increase capacity 15% — it is worthy of your investigation now!

HARDINGE
COMPANY, INCORPORATED — YORK, PENNSYLVANIA
NEW YORK, CHICAGO, SAN FRANCISCO, TORONTO

When inquiring specify CP9428 — see information request blank, pgs. 2-3

BUMP PUMPS

Solve Your Wartime PUMP PROBLEMS!

POSITIVE ACTION

SELF PRIMING

NO CHURNING ACTION

ONLY 2 MOVING PARTS

SLOW SPEEDS

Many chemical process plants are finding BUMP PUMPS completely solve their wartime problems. BUMP PUMPS are positive displacement type that operate at slow speeds, are self-priming under high vacuums or against head pressures, delivering a constant volume per revolution that is not affected by speed or pressures. Economical in use and maintenance. Sizes for every plant requirement. Catalog and engineering data upon request.

TAKE CARE OF THE PUMPS YOU NOW HAVE...

The BUMP PUMP CO.
LA CROSSE • WISCONSIN

When inquiring specify CP9429 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

PRODUCTION

Infra-Red Heating Coils Used On Moving Parts Of Machinery

Find specialized applications in addition to service in textile and printing industries

Uses — Used in printing and textile fields, the coil is also finding applications on moving parts of machinery.

Features — The design and construction provide resistance to vibration and shock. The cores are made of the finest grade of refractory porcelain with grooves finished as perfectly as possible to take 60 turns of the highest grade Nickel chromium wire No. 23. Patented windings at the ends keep the wire in position, preventing it from slipping off the core. Reinforced connecting ears reduce heat and furnish the resiliency needed to cushion vibration and shock.

Description — Lugs or connecting posts are furnished in a variety of lengths and terminal styles for various purposes. Mica insulation and washers are supplied, so that the coils may be suspended



COILS available with variety of connecting posts

properly through any desired type of support or reflector. Multiple coils may be used to obtain any required degree of heat. For special applications of open glow infra-red heat this coil may be adapted without difficulty in any position and in any quantity by selecting the correctly shaped connecting stud for the purpose at hand. Each coil uses three amperes, 110 volts. On higher voltages the coils are connected in series. Dimensions are: $3\frac{3}{4}$ long, $1\frac{1}{4}$ diameter. Thickness of wall, $\frac{1}{16}$ inch. Length of connecting ears $3\frac{1}{2}$ inches. Detailed information on Doyle "Infra-red" Heating Coils on request.

J. E. DOYLE CO., Dept. CP, 1224 W. 6th St., Cleveland, Ohio.

When inquiring specify CP9430
— see information request blank, pgs. 2-3



WITH OUR MODERN, PROVEN ELECTRICAL METHOD— FOR THE COST OF JUST ONE GOOD PAINT JOB!

• Modest in first cost, and cheap to operate (it uses only the current required by one light bulb, and at safe, low voltages) Rusta Restor has proven its efficiency on hundreds of steel tanks from coast to coast. Not a "magic," but the proven cathodic (i.e. electrical) thoroughly scientific process, Rusta Restor maintains the tank in an "electro-negative" or "neutralized" state, which not only prevents rusting, but gradually removes the product of any earlier rusting. Each system is engineered to the individual tank and water conditions, using proven, mathematical formulas, developed and used only by our engineers. Detailed description of interest to operating men and engineers—and list of typical users—sent on request. Write today.

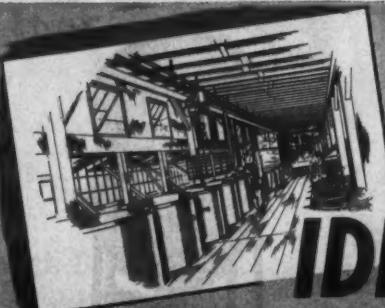
How it works—
Explained in this
folder—Send for
one to-day!

RUSTA RESTOR
THE PROVEN CATHODIC (ELECTRICAL) RUST PREVENTIVE
A Division of
THE JOHNSTON AND JENNINGS CO.
855 Addison Road • • • Cleveland 14, Ohio

OCECO VAPOR CONSERVATION AND FIRE PREVENTION EQUIPMENT FOR VOLATILE LIQUID STORAGE TANKS STOWE STOKERS HAMMERED FORGINGS

When inquiring specify CP9431 — see information request blank, pgs. 2-3

Page 63



Rigid hoist arm makes handling easy.

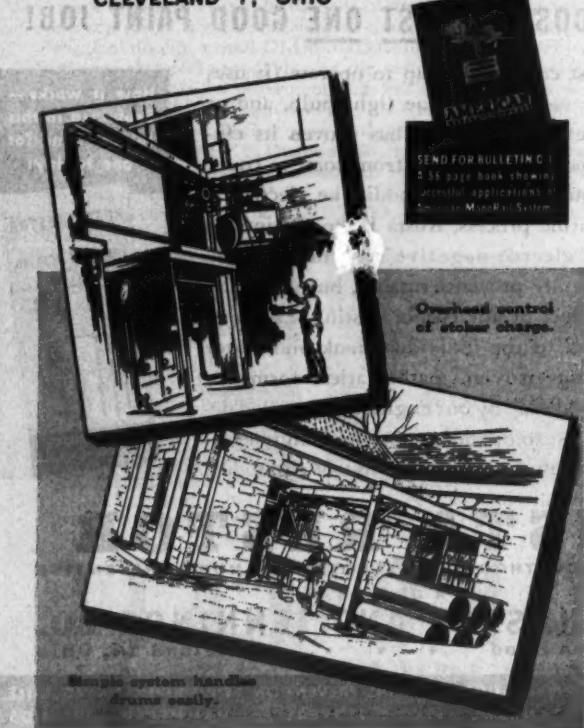
IDEAS for POST-WAR PRODUCTION

★Here are several American MonoRail installations which have proven successful in low cost handling. Any plans for post-war production should include such handling methods.

Regardless of the size or type of application, American MonoRail Engineers can help. Their specialized experience often uncovers hidden possibilities for simple systems that bring immediate returns. Consultation with these men is available without obligation. Write for copy of Bulletin C-1 showing a wide range of installations.

THE AMERICAN MONORAIL CO.

13109 ATHENS AVENUE
CLEVELAND 7, OHIO



Overhead control of stoker charge.

Simple system handles drums easily.

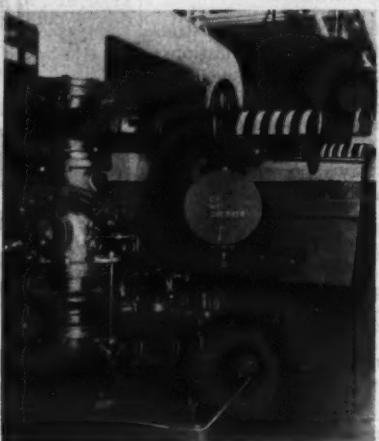
When inquiring specify CP9432 — see information request blank, pgs. 2-3

Page 64

PRODUCTION

Safety · Color Code For Industry Employs High Visibility Colors

Symbols also an important factor in standardized system for complete foolproof uniformity



THE DO NOT OPERATE BLUE SIGN on this large valve warns against its operation.

used throughout industry as a standard so that no employee gets the same automatic messages no matter where he works. The code provides the safety engineer and the maintenance man with a scientifically sound color system for the general improvement of plant "housekeeping" and employee safety. Even the four out of every hundred who are color blind will benefit, because they can distinguish the symbols used.

Description — While color is frequently used for safety in industry, many of its applications are inconsistent and confusing. A hue like yellow, or red for example may be applied in a wide variety of ways and with little regularity or meaning. Any application of color should hold all possible significance — bespeak purpose and not merely wave brightly before the eye. If red is used to indicate fire equipment, it should not be used at the same time to indicate hazards. One factory has its machine guards painted red — which would indicate that that very safety device itself is dangerous. Yellow, as well, has been given many widely different applications. This promiscuous use of color is not only confusing, it defeats its very purpose. To make the most effective use of color for safety, research by du Pont and its color consultants, working with safety engineers established the following points: Color in a safety program should attract the worker's attention and call forth predetermined associations. It must take into consideration the commonly recognized colors, each of which can readily be identified by name. The association of red with fire protection, of green with safety is traditional. The factor of high visibility under all lighting conditions must be recognized. Six colors are recommended as a basic for a general industrial safety color code; namely, yellow, orange, green, red, blue and white (black or gray). To each color has been assigned a recognizable symbol. As applied to industry each color or symbol can be used to indicate a distinct type of hazard or establish some specific identification. High Visibility yellow in the "Safety Color Code" should be used to mark strike-against, stumbling, falling or tripping hazards. In some places a solid band of this color will be sufficient

Uses — This color code for industry proposes a uniform system of color signals — a system based on sound scientific fact and research. It identifies types of accident hazards and protective equipment with a uniform system of colors and symbols.

Features — These colors, each distinct and easily recognized, can be



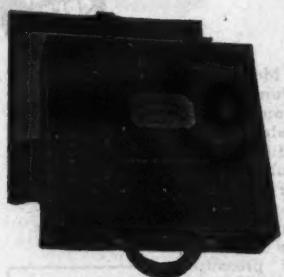
Busy electrons stay under control... when Ohmite Rheostats and Resistors are on the job. That's why you find Ohmite Units in the most advanced electronic developments. Widest range of types and sizes to meet every control need. Write on company letterhead for Industrial Catalog and Engineering Manual No. 40.

OHMITE MANUFACTURING CO.
4917 W. FLOURNOY ST., CHICAGO 44, ILL.

Be Right with OHMITE
RHEOSTATS • RESISTORS • TAP SWITCHES

When inquiring specify CP9433 — see information request blank, pgs. 2-3

INDUSTRY KEEPS FIT ELECTRICALLY WITH WESTONS



Industry's production figures bear testimony to the outstanding contribution plant maintenance men are making to war plant efficiency. Despite obstacles such as materials' scarcities and limited manpower, electrical equipment — old and new — is being kept constantly fit for full-scale output.

As part of the efficient maintenance combat team, WESTON test instruments play an important role. For in addition to their *trustworthy indications*, they also provide features which greatly simplify preventative maintenance procedure. In less time—at far lower cost—electrical equipment is being kept fit with dependable WESTONS. Weston Electrical Instrument Corporation, 669 Frelinghuysen Avenue, Newark, New Jersey.

WESTON Instruments

When inquiring specify CP9434 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

for quick and positive attention value. When unusually strong attention value is necessary, the code symbol, parallel bars of yellow and black should be used. Alert Orange should be used to indicate dangerous parts of machines or equipment that might cut, crush or otherwise injure a worker. If machine guards may be opened or are removable the inside part should be painted with orange to immediately attract attention to the hazards of unguarded or exposed moving parts. Safety Green should be used to paint first aid cabinets. The symbol of the green cross should likewise be placed on wall areas above such equipment so as to be seen from a distance. Green may also identify first aid rooms, cabinets for respirators, safety showers, etc. For many years, red has served to identify fire protection equipment and is so used in the safety color code. Industry should not employ it to signify danger because of its low visibility compared to high visibility yellow or alert orange. Blue has long been used to indicate caution. The chief function of the blue symbol (see accompanying illustration) is to caution against the operation of equipment which is cut down for repair or which should not be moved or started. The blue circle itself should be hung over such devices and the employees instructed accordingly. Blue may also be painted on switch control boxes, starting and stopping levers etc. Also on vats, ovens, boilers, compressors, kilns, dryers, tanks.

Traffic White in the safety color code marks, aisles, storage spaces and rubbish containers. For traffic control, the rule is to use white on dark floors, but black on light floors. Where the aisle mark is next to a hazard, High Visibility Yellow is better than white. The use of colors for piping identification should also be considered part of the safety color code for industry. The subject of "Safety Color Code for Industry" would not be complete without consideration of the related du Pont development, "Three Dimensional Seeing." This new science of combining color and light correctly provides today a proved way of bettering industrial seeing conditions. It calls for painting machinery in colors that reflect light instead of absorbing light. When bodies of machines are painted Horizon Gray, and the working areas in contrasting hue, Spotlight Buff or Green, these danger points are spotlighted clearly. The data cited here is taken from the profusely illustrated book, in full color, "A Safety Color Code for Industry."

E. I. du PONT de NEMOURS & CO., INC., Dept. CP, Wilmington 98, Del.

When inquiring specify CP9435 — see information request blank, pgs. 2-3

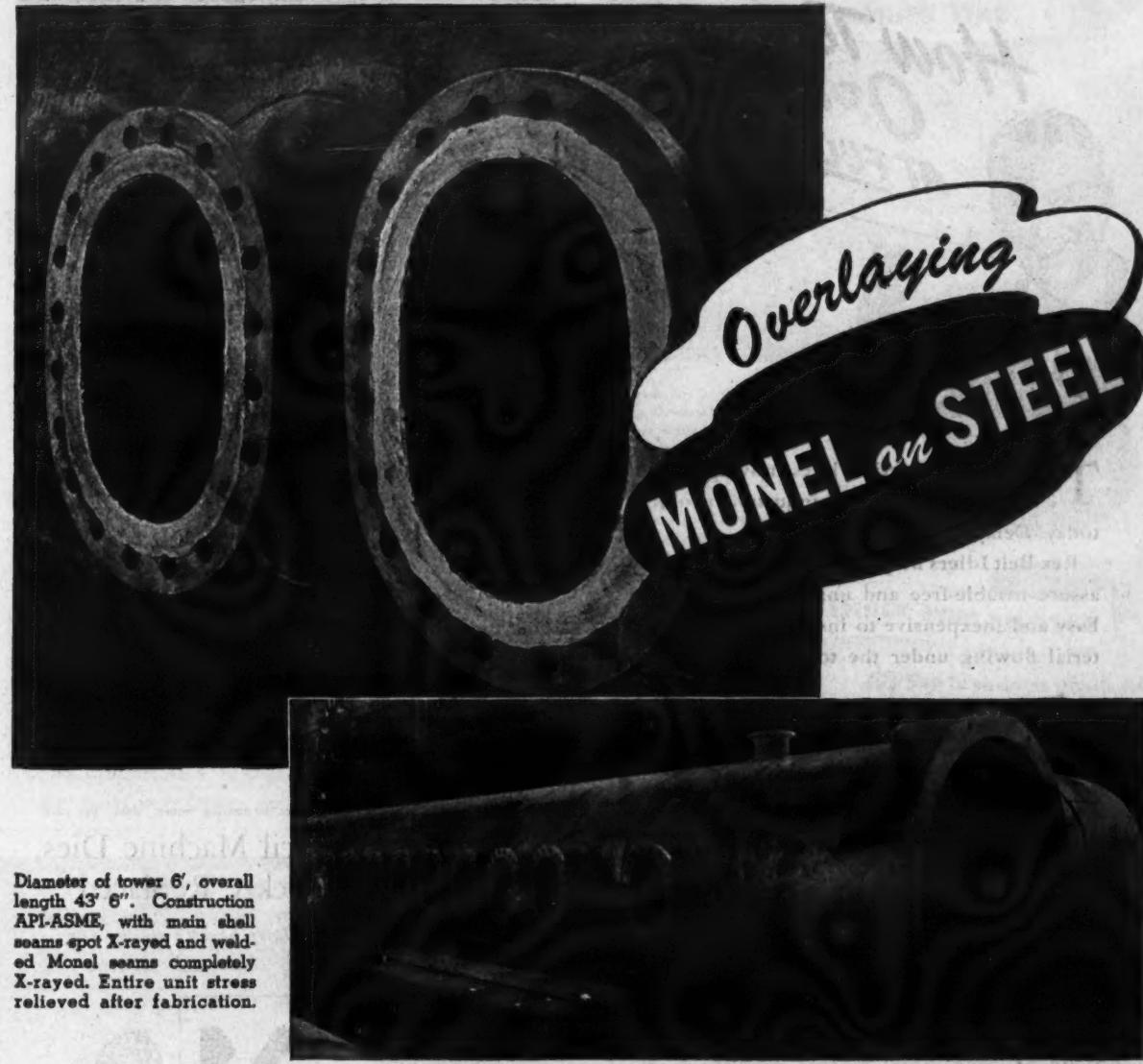
Standard Specifications for Basic Carbonate White Lead As Recently Approved

Standard specifications for Basic Carbonate White Lead has recently been approved by the American Standards Association. These specifications, developed by the American Society for Testing Materials' Committee D-1 on Paint, Varnish, Lacquer and Related Products, were first adopted by the ASTM in 1924. This is the fifth since that time. The specifications cover the composition and properties of basic carbonate white lead as a dry pigment, as a paste in oil, and as semi-paste containing volatile thinner. The number of samples to be tested and the tests to be conducted are specified in accordance with appropriate methods of the ASTM wherever applicable. The Standard Specifications for Basic Carbonate White Lead (ASA No. K23.1-1943) may be obtained for twenty-five cents a copy. (Those desiring copies should send request and money DIRECT to the association at the address given below.)

AMERICAN STANDARDS ASSN., 29 West 39th St., New York 18, N. Y.

When inquiring specify CP9436 — see information request blank, pgs. 2-3

MAY - JUNE, 1944



... TYPICAL OF THE DIFFICULT WELDING JOBS PRODUCED IN THE EDGE MOOR SHOPS

In fabricating this fractionating tower, the top portion of which is constructed of Monel-Clad steel plate, Monel was plug-welded to the face of the steel flanges so that all surfaces exposed to the distillates are protected from corrosive action. This plug-welding is a difficult job, but Edge Moor takes such work in stride, thanks to over 75 years' experience

in the fabrication of high pressure, high temperature, and corrosive resistant vessels.

Edge Moor welding and annealing techniques have played an important part in the development of equipment for the process fields. Avail yourself of Edge Moor's special skills and broad facilities by sending your blueprints and specifications for prompt quotation.

PROCESS EQUIPMENT FABRICATORS:

SEARCH OFFICES: NEW YORK 20, N. Y.: 30 ROCKEFELLER PLAZA
CHICAGO 2, ILL.: ONE NORTH LA SALLE STREET

EDGE MOOR

MAIN OFFICE: EDGE MOOR, DELAWARE

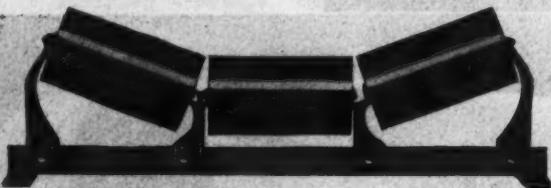
When inquiring specify CP9437 . . . see information request blank, pgs. 2-3

How To OPERATE AT FULL CAPACITY



TO KEEP production lines moving—often 24 hours a day—that's industry's problem today. Delays for repairs are out.

Rex Belt Idlers help solve that problem. They assure trouble-free and uninterrupted service. Easy and inexpensive to install, they keep material flowing under the toughest conditions.



Here's why:

1. Rollers are one-piece cylinders—removable and interchangeable.
2. Triple labyrinth grease seal—grease stays in and dust stays out.
3. Tapered roller bearings take all thrust—and radial loads.
4. Malleable brackets ribbed to prevent breakage under shock.
5. Large grease reservoir with passage to both bearings.
6. Unit mounting of roller bearings—positive, permanent alignment.

For further information on this and other conveyor units, write for Bulletin No. 410. Chain Belt Company, 1694 W. Bruce Street, Milwaukee, Wisconsin.



BELT CONVEYORS

**CHAIN BELT COMPANY
OF MILWAUKEE**

When inquiring specify CP9438—see information request blank, pgs. 2-3

Page 66

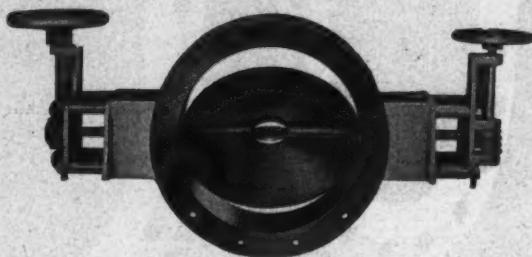
PRODUCTION

Two-In-One Butterfly Valve

Operates beyond limitations of single valve; easily adapted to power operation

Uses — Designed for either a high pressure drop and small volume or low pressure drop and large volume, this dual purpose butterfly valve operates beyond the limitations of a single valve.

Description — The larger beveled vane seats against the body of the valve, while the smaller vane is free revolving.



2-IN-1 VALVE in sizes for pressures 15-900 psi

Four to six revolutions of the hand wheel completely close or open either valve vane. This type valve is available in various combinations of valve sizes and for operating pressures of 15 - 900 psi. Additional information of Valve type 608 on request.

R-S PRODUCTS CORP., Dept. CP, Wayne Junction, Philadelphia 44, Pa.

When inquiring specify CP9439—see information request blank, pgs. 2-3

Streamline Stencil Machine Dies, Punches Quickly Replaced

Dial design, quick short handle stroke for positive operation, clean cut stencils

Uses — For cutting stencils complying with current regulations and requirements. Brushes, ink and other accessories and supplies available for complete outfit make it easy to standardize stenciling operations and quickly mark shipments completely with correct address, shipper's address, instruction warnings such as Fragile, Glass, Collect, etc. as well as export marks. For marking crates, boxes, cartons, bags, iron steel, lumber, brick, tile, spare parts, also making signs.

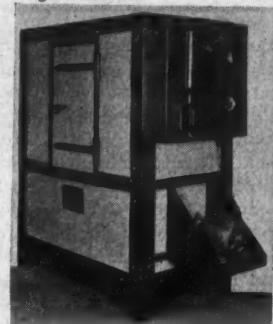
Features — New dial design nested and guarded, it has large, easy-to-read characters. Cover streamlined, without pockets or projections while front controls are recessed for convenience. Clean hand wheel without spokes or lugs, no interference with hand motion when selecting characters. Short powerful handle stroke for cutting. New button for spacing between words prevents spoiled stencils.

Description — Machines in three sizes for cutting 1 inch,



STENCIL MACHINE

**Here Are Three
Ways to Make a
"NATIONAL"
TEST DRYER
Pay Dividends**



(1) Explore the possibilities of improving present production equipment; (2) Determine the most efficient operating speed, air velocity, temperatures, etc., before going into full-scale drying of a new product; and (3), Use it for actual production where quantities are limited to the dryer's operating capacity. Any hypothetical drying condition can be duplicated on a miniature scale. Accurate control of velocity, humidity, and temperature easily maintained. Designed for either cross or through circulation of the drying medium, depending upon the nature of the material to be dried. Humidifying system and control are optional. Rigid, durable construction, with adequate insulation. Interior readily accessible for cleaning. For chemicals, ceramics, food products, textiles and other materials.

Chemical Dryers
of All Types
and Sizes



Social Drying
and Heating
Equipment

THE NATIONAL DRYING MACHINERY CO.
2709 N. HANCOCK STREET, PHILADELPHIA, PA.

When inquiring specify CP9440—see information request blank, pgs. 2-3

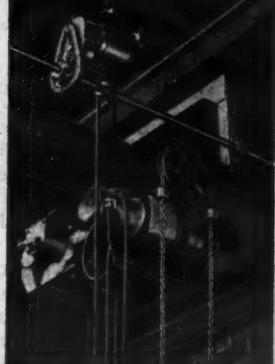
MOTOR TRAVEL for Hand Traveled Crane Bridges

THE Northern "TRAVELATOR"

Less than half a day required for application—no dismantling of crane—any good mechanic can apply the Northern "Travelator."

It provides pendant push button controlled electric power travel for hand traveled bridges within the range of 10 tons capacity.

The "Travelator" is an inexpensive, thoroughly effective durable device



WRITE FOR BULLETIN 5

Northern

ENGINEERING WORKS

2645 Atwater Street, Detroit, Michigan

Offices in Principal Cities

Northern Crane & Hoist Works Limited, Windsor, Canada

When inquiring specify CP9441—see information request blank, pgs. 2-3

CHEMICAL PREVIEW

CLEANLINESS
is smart business
ELIMINATE
DUST AND DIRT!

Parsons Oval Bag DUST ARRESTORS

In hundreds of cases factory dust and dirt is the primary cause of absenteeism, slowing up of production plus premature deterioration of equipment and plant. Parsons Oval Bag Dust Arrestors offering proper and efficient dust control is the one sure, inexpensive way of eliminating this menace.

Parsons Oval Bag Dust Arrestors have been doing an outstanding job in all types of industries, for over a quarter of a century and today are recognized as one of the most modern and efficient pieces of dust control equipment on the market. Equipped with many exclusive features such as patented Oval Filtering Bags, Non-rotating Arrestor Case, simple Torxope Drive, Heavy Duty Welded Hoppers and others. Regardless of what your problem is, call in our engineers, no obligation, or write for our free dust control bulletin, "Mastery of the Air."

**PARSONS
ENGINEERING CORP.
2545 E. 79th ST., CLEVELAND, OHIO**

When inquiring specify CP9442 — see information request blank, pgs. 2-3



NIAGARA GYRO-WHIP SIFTER

High-Speed SIFTERS

- GYRO-LAB
- GYRO-WHIP
- SUPER

CHEMICALS, POWDERS, GRAINS, ETC.
POUNDS TO TONS CAPACITY PER HOUR.
2 TO 250 MESH. MULTIPLE SEPARATIONS.
SMOOTH — QUIET — MODERN — EFFICIENT.

ALNICO PERMANENT MAGNETS

(SPOUT OR CHUTE TYPE)
CLASS "A" RATING FROM
FIRE UNDERWRITERS.

REMOVE TRAMP IRON — GUARD YOUR
PRODUCTS — PROTECT VITAL MACHINES —
PREVENT FIRE AND EXPLOSION.

Richmond Mfg. Co.

LOCKPORT, N. Y.



When inquiring specify CP9443 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

PRODUCTION

$\frac{3}{4}$ inch and $\frac{1}{2}$ inch stencils. (Comply with Government specifications GG-M-91.) Machines come complete with fountain brush, stencil ink and stencil board. Each machine cuts 40 characters in oil board or stencil board. 1 inch machine cuts up to four lines, $\frac{3}{4}$ inch machine, also four lines, $\frac{1}{2}$ inch machine, 6 lines. Dimensions and weights of these machines: 24' x 18' x 10' high, 145 lbs., net; 21' x 16' x 10' high, 100 lbs., net; 21' x 16' x 10' high, 100 lbs., net, respectively. Handbook available on request describes machines in detail, contains practical suggestions on cutting stencils, marking shipments, how to replace punch and die and other maintenance data, use and care of fountain brush, tabulated shipping information and listing of stencil supplies.

MARSH STENCIL MACHINE CO., Dept. CP, 42 Marsh Bldg., Belleville, Ill.

When inquiring specify CP9444 — see information request blank, pgs. 2-3

Synthetic Rubber Glossary

Glossary giving pronunciations and meanings of synthetic rubber words is offered in an eight page pamphlet by producer of butadiene-type synthetic rubber. The preface of the booklet states that it is designed to help business, industrial and sales executives and their associates in discussion of this subject and is not a highly scientific treatise. It is further pointed out that the glossary is by no means complete, but includes only the more common chemical terms and some of the well known trade names. The organization issuing this booklet produces crude synthetic rubber in various grades and types. Its products are now largely confined to war materials.

HYCAR CHEMICAL CO., Dept. CP, Akron, Ohio.

When inquiring specify CP9445 — see information request blank, pgs. 2-3

GET THE FACTS ON THIS ALLOY CASTING SERVICE



Write for
**FREE
DATA
SHEET**

Condensed into one file-size reference sheet are complete data on the products and services of The Cooper Alloy Foundry Co. Included is a full listing of Cooper stainless steel, monel and nickel alloys... their analyses, physical properties, recommended applications, A.I.S.I. A.S.T.M. and other equivalent designations. Get the facts on Cooper... write for this data sheet today.

THE Cooper ALLOY FOUNDRY CO.
150 BLOY STREET • HILLSIDE, NEW JERSEY

When inquiring specify CP9446 — see information request blank, pgs. 2-3

THIS WAS A FAMOUS FIRE.



The Great Fire at Chicago commenced on Sunday evening, October 8, 1871, and swept unchecked for two days. It consumed over 5 sq. miles of the business portion of the city and destroyed public buildings, hotels, newspaper offices, railroad depots and tenement districts. Five hundred lives were lost and damage was estimated at \$200,000,000! . . . Watch future issues of this magazine for old prints of other famous fires.

Free copy of this
Currier & Ives print
suitable for fram-
ing, on request.
Limited supply. See
coupon below.

...AND HERE'S A FAMOUS FIRE FIGHTER



If it's **GENERAL
DETROIT** It's Better

THE GENERAL DETROIT CORP.

Former name the General Fire Truck Corp.

NEW YORK **DETROIT** **CHICAGO**

Distributors in all principal cities
West Coast Affiliates: The General Pacific Corp.,
Seattle, Los Angeles, San Francisco.

HANG
THIS ON
YOUR WALL

THE GENERAL DETROIT CORP.
2200 Fred Jefferson Ave., Detroit 7, Michigan

Please rush my free copy of "The Great Fire At Chicago"
including history of CO2 fog.

Name _____

This _____

Attach this convenient coupon to your letterhead and mail. (616)

When inquiring specify CP9447 — see information request blank, pgs. 2-3

Page 67

SIFTING SPEED AMAZES USERS

CENTRIFUGAL METHOD PRODUCES CLEAN SEPARATION 2 TO 5 TIMES FASTER THAN BY ANY OTHER METHOD.

Typical of the reports of hundreds of users of Abbé-Blutergess Turbine Sifters are these: "We sift talc, zinc stearate, rice, starch, magnesium carbonate, getting 99.8% fines. It works 3 to 5 times as fast as gyratory sifter; labor cut in half."

On pharmaceuticals: "We save $\frac{1}{2}$ to $\frac{3}{4}$ per lb. and sift 3 to 6 times faster than with other mechanical sifters we replaced."

On molding compound: "Your machine is much smaller, easier to handle, clean and change screens than gyratory machine of equal capacity."

There are many more reports proving the remarkable savings in time, power, space, attention and cleaning. This Sifter handles any dry material, making clean, dustproof separation with minimum of "fallings." It is available in single, double and triple turbine sizes for any capacity from few pounds to as much as 10,000 lbs. per hour. Overall floor space for the largest size is only 6.5 sq. ft.

Write for Bulletin 52

ABBÉ ENGINEERING CO.
40 Church St., New York 7, N. Y.



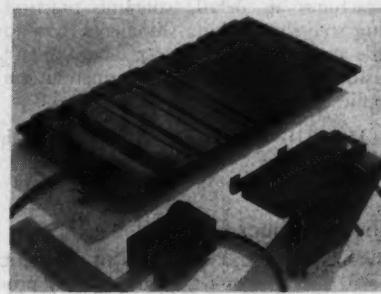
ABBÉ BLUTERGESS TURBINE SIFTER
30 to 10,000 lbs./hr.
Sifts 6 to 300 mesh.
Clean Separation.
Less Space and
Power. Easy to
Clean.

When inquiring specify CP9448 — see information request blank, pgs. 2-3

PRODUCTION

High Efficiency Attained in New, Easily Attached Contact Heaters

Electric heaters developed for war use now ready for industrial applications: ordinarily need no nuts, bolts, permanent attachments



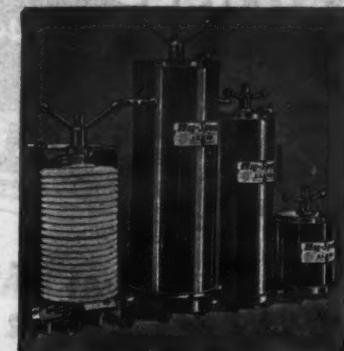
ELECTRIC CONTACT HEATERS made in various sizes, contours, capacities

devices are now being engineered to meet a wide variety of industrial, chemical, processing and metallurgical requirements.

Features — Since the new heaters attain a new degree of efficiency, it is expected that they will be adapted to many peacetime uses, for they can be made in nearly any size, contour and capacity. They have the advantage of light weight, of operating at low wattage, of being safe in the presence of explosive vapors, of operating without deter-

Uses — Originally developed for such uses as heating bolt or firing mechanism of machine guns, hydraulic actuating mechanisms on airplanes in the stratosphere and storage batteries in Army tanks in low temperature areas, these

SOMETHING NEW FOR OILS



PAK-FILTER showing PAK unit.

In addition to our very well known Hy-Speed Filters; designed for the perfect filtration of all kinds of liquids; we now present a new line of filters developed for the same fine filtration — but for oils.

Alsop PAK-FILTER

Completely filters out all dirt and foreign matter leaving a result of clean clear oil — like new. The inexpensive filter medium shown above is a pack of filter discs in a unit which can be thrown away after use, and a new PAK inserted quickly. PAK-FILTERS are made in portable, on stands and for pipe line connection, for every need.

Write for our new book on
PAK-FILTERS
ALSOP ENGINEERING CORP.
17 Alsop Square Milldale, Conn.

When inquiring specify CP9450 — see information request blank, pgs. 2-3

Simplicity Gyrating Screens



5' x 6' Single Deck Model "C" Screen.

have been built and used since 1922 and today are operating in over 1710 different plants throughout the country. Simplicity screens are used for every type of operation requiring a separation into sizes, reclamation of products or dewatering of liquid pulps.

A rubber company uses two 4' x 8' Single Deck Screens equipped with 60 mesh cloth to handle finely ground rubber in caustic solution. They state, "These screens have given very good service so far. We are dewatering about thirty tons per 24 hours and could probably handle at least 50 tons. We have had no mechanical failures."

Simplicity Gyrating Screens are available in sizes ranging from 2' x 3' up to 5' x 14', and in single, double, triple and four decks. Write for further information.

SIMPLICITY ENGINEERING COMPANY
DURAND, MICHIGAN

For Canada: Waterous Limited, Brantford, Ontario

When inquiring specify CP9449 . . . see information request blank, pgs. 2-3

TROUBLE FREE SERVICE
...Year in, Year out

That's what you can expect, and will receive if you specify Economy's "Sure-Flow" Vertical Non-Clog Pump. Especially designed to pass solids, rags, sewage and trash without vibration or whip from shock of temporary unbalance by heavy objects entering the impeller. Motor is mounted in a yoke directly above the pump and flexibly coupled to the pump. The pump has its own heavy duty bearings and separate shaft. Economy Non-Clog Pumps are ideal for:

- Sewage Disposal
- Paper Mills
- Underpass
- Sludge Removal
- Drainage
- Overflow
- Food Industries
- Chemical Services
- Industries
- Reduction Plants

If your problems fall in any of these applications—write today for Bulletin T534. It tells a story well worth reading.

E

ECONOMY PUMPS, Inc.
HAMILTON, OHIO, U. S. A.

When inquiring specify CP9451 — see information request blank, pgs. 2-3

SPRAY NOZZLES That Deliver Every Time



"Fulljet" Spray Nozzle—delivers full cone spray of uniform distribution.

Whether you need special spray nozzles for a new process or new method, or whether you simply want better, faster spraying, get experience on your side. With Spraying Systems nozzles, your operations get the benefit of eighteen years' experience in the designing and manufacturing of nozzles for every conceivable type of spraying.

Our new catalog describes a complete line of standard nozzles and illustrates the scope of the experience which is here to serve you. Write today for your free copy of this helpful book.

SPRAYING SYSTEMS COMPANY
4037 West Lake Street Chicago 24, Illinois

SPECIALISTS IN THE DESIGN AND MANUFACTURE OF SPRAY NOZZLES

When inquiring specify CP9452—see information request blank, pgs. 2-3

IRONBOUND
SPECIALLY-DESIGNED
SKID
PLATFORMS

...provide extra facility in handling!

Where standard type skids do not offer adequate facilities for heavy materials-handling and shipping requirements, IRONBOUND specially-designed units can be produced for specific applications. Of bolted, welded or bolted and welded construction, these skids can handle maximum loads safely and efficiently.

Send your specifications to us—including maximum load, size of platform required, etc. IRONBOUND engineers will gladly collaborate.

IRONBOUND BOX & LUMBER CO.
33 Hoffman Place, Hillside, N. J.

IRONBOUND
MATERIALS-HANDLING EQUIPMENT

When inquiring specify CP9453—see information request blank, pgs. 2-3

MAY-JUNE, 1944

PRODUCTION

oration of the heating element, of withstanding severe vibration and of maintaining exact temperatures within close limits. The efficiency of the device may be judged by the fact that even with outside temperatures as low as 65 degrees F below zero, it will raise the temperature of a machine gun mechanism well above the desired operating temperature. A combination of several factors accounts for the high efficiency of the principle involved. Despite the low current consumption which ranges from 35-400 watts in the various sizes and shapes of units so far developed, thermal losses are so well controlled and heat transfer so efficiently accomplished that a unit weighing only a few ounces will raise the temperature of 30-odd pounds of steel 90 degrees F above sub-zero external temperatures. This is partly due to the methods of insulating and housing the heating element developed in the company's research laboratories and partly to the unusual methods of attaching the heater to the object to be heated. By this method the face of the heating plate is held in compressive, resilient contact against the surface through which the heat is to be transferred. No nuts or bolts or permanent attachments ordinarily are required; the units in most cases can be "sprung" onto the object. While they can be readily removed if desired, their "grip" withstands the severest vibration.

Description — Some of the many different sizes and shapes in which these heaters can be made are shown in the accompanying illustration and in the picture on the cover. Booklet describing these devices is available upon request. H & A MFG. CO., INC., Dept. CP, 86-100 LeRoy St., Buffalo 14, N. Y.

When inquiring specify CP9454—see information request blank, pgs. 2-3

Enclosed Fan Cooled Motors

All steel housing; external cooling fan of non-sparking aluminum alloy



MOTOR-STREAMLINED ALL STEEL HOUSING

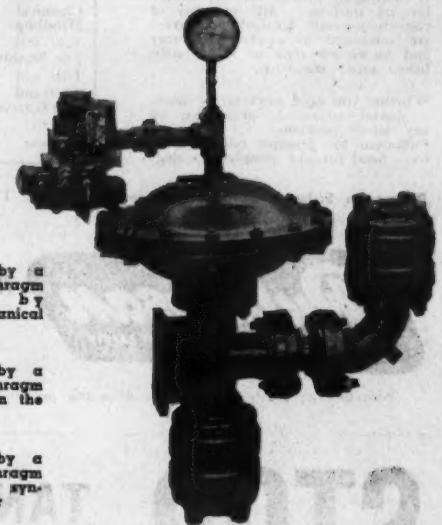
greater compactness in overall length (no change in mounting dimensions). Rotor is a special rolled copper end ring and copper bar construction, welded or brazed together. Ball bearings, grease type. Cartridge construction with a double row, self-aligning bearing on the drive end and a heavy-duty single row, deep groove bearing on opposite end. Cartridge design is such that either bearing may be inspected without removing the bearing bracket.

Description — Size range from $\frac{1}{2}$ HP. — 100 HP. (polyphase and single phase). In polyphase line multi-speed, punch press, high torque, conveyor duty and other electrical type motors are available; other mechanical designs, vertically mounted etc. Bulletin K-20 gives general specifications and frame dimensions.

HOWELL ELECTRIC MOTORS CO., Dept. CP, Howell, Mich.

When inquiring specify CP9455—see information request blank, pgs. 2-3

OLIVER DIAPHRAGM SLURRY PUMP



• Actuated by a flexing diaphragm unconnected by any mechanical linkage

• Actuated by a flexing diaphragm unpunched in the center

• Actuated by a flexing diaphragm of durable synthetic rubber

THE O-D-S Slurry Pump is a simple pump... just a durable diaphragm flexing under the impulse of compressed air or vacuum or a combination of both. Carefully selected and tested solenoid valves control these impulses, the timing of which is also under close control. Wear-resisting and corrosion-resisting ball check valves complete the assembly.

As for the types of products the O-D-S Pump is handling, these are typical: • caustic crystal salts • manganese, titanium and gypsum slurries with particles up to $\frac{1}{8}$ " • sink-float concentrates • ground cocoa bean shells and water • acetic and propionic acid plus wood oil at 145° C. • 60% hydrofluoric acid at 150° F. • calcium carbonate • clay and oil mixtures. •

The sizes of pumps range from 1 inch to 3 inches. Batteries can be used effectively to proportion different feeds.

OLIVER
UNITED FILTERS
INC.

33 West 42nd Street
New York 18, N. Y.



Chicago 1, Ill., 221
N. LaSalle Street
Western Sales Division, Oakland 1,
Calif., 2900 Glascow Street

Factories: Oakland, Calif.—Hazleton, Pa.—Orillia, Ont., Canada—Melbourne, Aus.
When inquiring specify CP9456—see information request blank, pgs. 2-3

Page 69

5-DUF-2



The first consideration when buying Safety Equipment is . . . SAFETY! Is it correctly made? Is it reliable? Will it protect the worker?

Remember this fact: ANY safety equipment you buy from Pulmosan is thoroughly proven and dependable for its purpose. All materials of construction—all finished products—are submitted to careful laboratory and on-the-job tests to meet established safety standards.

Whether you need stock safety items, a special safeguard, or advice on any safety problem, call on Pulmosan for prompt, reliable service. Send for our complete catalog.

Pulmosan Safety Equipment Corp., Dept. CP, 176 Johnson St.
Brooklyn 1, N. Y.



RESPIRATORS
Chemical Handling
Face and Eye Shields
First Aid
Foot and Toe Guards
Goggles
Helmets
Hoods
Masks
Protective Clothing
Skin Creams
Welding, etc., etc.

When inquiring specify CP9457 — see information request blank, pgs. 2-3

STOP TANK TROUBLES

with GLASS tanks

- • • that are impervious to acids, alkalis, chemicals, liquids of almost every kind.
- • • that can handle safely most of the toughest solutions.
- • • that are made of tempered glass—four times as strong as ordinary glass—able to withstand sharp temperature changes.
- • • that are readily available, right now.
- • • and that come in types, sizes and colors to meet any tank need.

Send the coupon for the facts about
GLASS TANKS BY "PITTSBURGH" . . . TODAY!

Pittsburgh Plate Glass Company
2113-4 Grant Building, Pittsburgh 19, Pa.
Please send me, without obligation, free literature on Glass
Tanks by "Pittsburgh."

Name.....
Address.....
City..... State.....

PITTSBURGH PLATE GLASS COMPANY

When inquiring specify CP9468 — see information request blank, pgs. 2-3

PRODUCTION

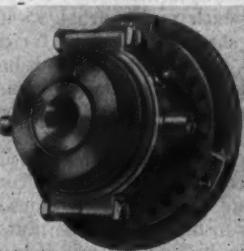
Rolling Grip Friction Clutch Uses Inclined Plane Principle

For packaging, paper handling, floor scrubbing, cannery, fruit grading, textile machinery

Uses — For relatively small power requirements. It is easily adapted to operating conditions: it may be provided with a gear tooth friction disc and drive ring or with bolted friction disc for operation under dry conditions. If required to operate in oil, asbestos fiber friction disc may be replaced with a number of thin metal discs. The cam and thrust ring contours may be altered to change the clutch characteristics; for example if the clutch is not required to stay engaged but is to be engaged and disengaged constantly, the locking angle can be removed from the cam.

Features — No links, pins, cotters, or other highly stressed mechanical parts. Simple method of adjustment. No exposed operating parts and smoothly finished die castings are used for slip ring and drive ring.

Description — There are no toggles, instead a number of highly polished hardened steel balls are forced into a vee shaped groove by a hardened steel cam. Forcing the balls toward the center of the shaft widens the vee shaped



"When we need more Worm Gear Speed Reducers —we will order Clevelands"



After purchasing 60 Cleveland Worm Gear Speed Reducers over a period of 20 years, a Process Plant executive makes this cordial comment:

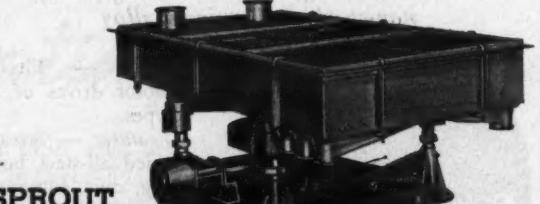
"If we have more equipment of this type to put in, we will assuredly use your Units on them."

This is no isolated example. In fact after one thorough experience owners generally order more Clevelands when buying additional drives. They appreciate Clevelands' steady, dependable performance—no lost production time, no parts-replacement costs. And so will you. Designing and building Worms and Gears has been our exclusive business ever since 1912. With many thousands of installations throughout Industry, Cleveland invites your inquiries.

THE CLEVELAND WORM & GEAR COMPANY
3257 East 80th Street • Cleveland 4, Ohio
Affiliate: The Farval Corporation, Centralized Systems of Lubrication
IN CANADA: Peacock Brothers Limited



When inquiring specify CP9460 — see information request blank, pgs. 2-3



SPROUT, WALDRON PERFECT CIRCLE SIFTER

This versatile SPROUT, WALDRON unit handles hundreds of different materials. The circular motion is ingeniously controlled. Dead spots eliminated—full area, accurate screening. Lower cost.

Screen box, dust-tight and adjustable for pitch, easily divided to permit two products to be sieved at one time without risk of contamination. Constant tapping of rubber balls prevents clogging of screen. Separate frame carries bolting wire or silk—a decided advantage where screening requirements are subject to change.

Outlets can be placed to suit plant installation.

SPROUT, WALDRON Perfect Circle Sifters available in several sizes. 1 H. P. motor.

SPROUT, WALDRON COMPANY
Manufacturing Engineers Since 1866
156 Sherman St.
Muncy, Penna.

When inquiring specify CP9450 — see information request blank, pgs. 2-3

What a Chemical Engineer told us about Robins Hydrex Screens

A large plant in the process industries faced a difficult problem in separation. A substance with a highly viscous component had to undergo removal of a percentage of its moisture content.

Several methods and machines were tested endeavoring to find the best means of performing this disintegrating operation. To some, the glutinous element presented an insurmountable handicap; with others, only a fair degree of success was attainable. In no case, could production continue much longer than an hour before shutdown was necessary while the mucid excretion was removed, usually with live steam.

A Robins Hydrex Screen was added to the list of units being tried. In the first test, it operated for 51 consecutive hours before an accident to the metal cloth compelled a halt.

When results of all the tests were compiled, the Engineer in charge of the project found that the Robins Hydrex provided a total of 28 benefits. All other devices combined offered some degree of competition on 7 points; the Hydrex was alone in providing the 21 additional advantages.

Robins Hydrex Screens have great value in recovering all or the majority of solids from a liquid; in removing or materially reducing the moisture content of sludges, slurries and pulps; in rinsing and washing undesired fines from coarse solids and in classifying or separating predetermined sizes of fractions from fluid mixtures. Facts, suggestions and recommendations will be submitted on invitation addressed to Dept. CP-5.

ENGINEERS • MANUFACTURERS • ERECTORS

For Material Aid in
Materials Handling

... It's ROBINS

ROBINS
CONVEYORS
INCORPORATED
Founded in 1896 as Robins Conveying Belt Co.
PASADENA • NEW JERSEY

MATERIALS HANDLING MACHINERY

When inquiring specify CP9461 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

groove. This application of the basic principles of the inclined plane or wedge produce a heavy power transmitting pressure on the friction surface. Adjustment is controlled by a threaded collar, locked in place by two set screws. With the clutch engaged, the two set screws are loosened and the adjusting nut is tightened a small fraction of a turn. The screws are then tightened to lock adjustment. Made in $3\frac{1}{2}$ in. diameter disc, rated at $\frac{1}{2}$ HP at 100 RPM and $4\frac{1}{2}$ in. diameter disc, rated at 1 HP, at 100 RPM.

DODGE MFG. CO., Dept. CP, Mishawaka, Ind.

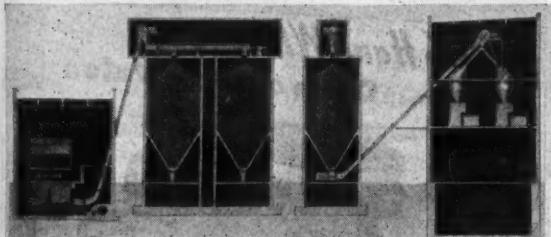
When inquiring specify CP9462 — see information request blank, pgs. 2-3

Conveyor-Elevator System Provides Continuous Flow of Bulk Materials

Self-feeding; all material removed at point of discharge; discharge rate does not depend on continuous loading

Uses — Mass handling of free-flowing bulk materials: chemicals such as alum, bone, borax, chalk, clays, cork, limestone, pigments, rock, plastics, starches, foods: cereals, chocolate, grains, nuts, starch and sugar; also coal, fertilizers and tobacco.

Features — Provides a continuous flow of material. Discharge mechanism removes all material in the conveyor system at point of discharge. Equipment is completely self-feeding and no auxiliary feeding devices are required. The system is completely self-cleaning and has a minimum of churning and degradation while in operation or after feeding has stopped. Design saves space, overcomes difficulties due to small clearances.



SYSTEM HANDLES PEBBLE-LIME FROM CARS TO BINS to chemical feeders for water treatment

Description — The system consists of a chain-belt equipped closely spaced scraper-carrier flight, which operates in an inclosed casing. With the entire cross-section of the casing and all the space between the flights solidly filled with the material being handled, a continuous flow of material results. The system is flexible in application with a wide choice of basic units. It can convey material horizontally, vertically or at an angle; essentially a closed-circuit method, it is clean and dust-free. Chain belt has no pockets to catch and hold material. Spacing of flights every second pitch on the chain belt insures proper full loading of conduit and flights are fixed or pivoted as required. Scraper-carrier flight in its tipped discharging position in an entirely unobstructed flat plate. Bulletin 442 gives capacity tables, horsepower formulas, general arrangements and dimensions.

CHAIN BELT CO., Dept. CP, 1694 W. Bruce St., Milwaukee 4, Wis.

When inquiring specify CP9463 — see information request blank, pgs. 2-3

"FAIRBANKS-MORSE SCALES — ARBITERS OF BUSINESS"



The Decision Is Final!

Since 1830—Fairbanks-Morse Scales have been rendering split-second decisions recognized as *fair* and *absolute* by buyers and sellers alike.

They are accurate, reliable, honest weighing decisions that have exerted a profound influence on the progress of industries and the welfare of nations.

The accuracy and long life built into Fairbanks-Morse Scales can give you added protection—dis-

tinct *plus values* wherever fast—accurate—efficient weighing is essential.

They are tangible *values* developed and pioneered by a company that places no ceiling on whatever it takes to make the finest scales possible to produce.

Fairbanks, Morse & Co., 205 Fairbanks-Morse Building, Chicago 5, Illinois.

BUY WAR BONDS

FAIRBANKS-MORSE

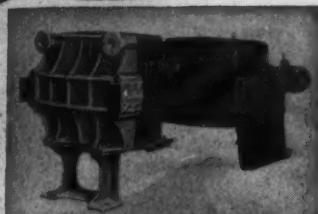
DIESEL ENGINES WATER SYSTEMS
PUMPS SCALES
MOTORS STOKERS
GENERATORS FARM EQUIPMENT
RAILROAD EQUIPMENT

Scales

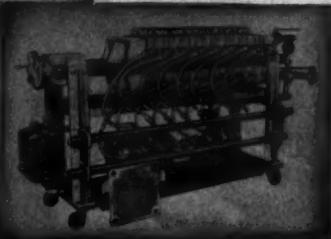
When inquiring specify CP9464 . . . see information request blank, pgs. 2-3

FOR
SOLIDS RECOVERY
WASHING • THICKENING
DRYING • CLARIFYING • EXTRACTING
DECOLORIZING

Large Shriver corner feed, open delivery, washing type filter press with rubber covered cast iron filter plates and frames.



Double feed, double discharge, corner feed blotter type filter press, with leakproof frame construction for clarifying oil at 225° F.



Portable pilot plant, Monel metal filter press with alternate plates cast hollow for steam or hot water circulation, connected by flexible bronze hose to heating supply pipes.

get These Advantages from
SHRIVER FILTER PRESSES

LOW OPERATING COST—because of minimum equipment investment, low power consumption, minimum floor space per square foot of effective filtering area and unskilled labor.

WIDE VERSATILITY—filtration of any material at any desired temperature or pressure, using any filter media or filter aids. Filter press can be built of any size, of any metal, wood, rubber or coated metal.

MULTIPLE PURPOSE—filtration can be followed by washing, backwashing, extraction, heating, drying or dissolving right in the filter press.

get the Shriver Filter Book

T. SHRIVER & COMPANY, Inc.
846 Hamilton St.
Harrison, N. J.

When inquiring specify CP9465 — see information request blank, pgs. 2-3

Page 72

PRODUCTION

Copper Ammonium Fluoride

Offered in experimental quantities in two strengths, 10% copper and 15% copper

Uses — Application is in the mildewproofing of such textile materials as cotton, jute, sisal, linen, hemp. **Description** — Applied from aqueous solutions in a single bath treatment and is compatible with standard water repellents. Now offered in experimental quantities in both strengths. Both materials have been approved as complying with chemical requirements of the U. S. Army Corps of Engineers Tentative Specification No T-1542A and both are represented by the approximate formula $\text{Cu}(\text{NH}_3)_4\text{F}_2$. The 10% material is a dark blue solution carrying considerable solids (approximately 30%) and has an analysis approximating 10-11% Cu., 5-5.5% F. and 10-12% NH_3 . The solids in the material are soluble in dilute ammonia. The 15% material is a more recent development and is a stable dark blue solution of uniform composition, essentially free from suspended matter. In addition to savings in freight charges, this material, due to its uniformity permits withdrawal and use of portions of the contents of the shipping container without fear of low strength baths. The analysis of this material approximates 15-16% Cu., 7.5-8.0% F and 15-17% NH_3 . Commercial packages are wax-lined oak barrels.

PENNSYLVANIA SALT MFG. CO., Dept. CP, 1000 Widener Bldg., Philadelphia, Pa.

When inquiring specify CP9466 — see information request blank, pgs. 2-3

AN All-Electric ADJUSTABLE-SPEED DRIVE FOR A-C. CIRCUITS

SPEED RANGES up to 16 to 1

SIZES 1 TO 30 hp.



ALSO: A direct space-saving drive; speed-control convenience without limitations; reversing; start and stop without interfering with speed setting; ample starting torque.

Send for your copy of Bulletin 311 — FREE

RELIANCE ELECTRIC & ENGINEERING CO.
1088 IVANHOE ROAD CLEVELAND, OHIO

Sales Office in Principal Cities

When inquiring specify CP9468 — see information request blank, pgs. 2-3

EDMONT industrial GLOVES for long wearing economical HAND PROTECTION



Widely accepted in the chemical field and other leading industries for their high resistance to oils, solvents, acids, caustics, etc. Fabric reinforcement makes them virtually snag-proof and tear resistant, assuring long wear economy. Full protection against Dermatitis; comfortable on the hands; flexible and efficient to work with; easy on and off. Available in knit wrist and gauntlet styles for men and women. Write for samples, prices and delivery information.



Edmont TRADE MARK REG. U.S. PAT. OFF. 501 ORANGE ST. COSHOCOTON, OHIO

When inquiring specify CP9467 — see information request blank, pgs. 2-3

4 to 6 Hand Wheel Turns Open or Close Valve



The quick operation of R-S Butterfly Valves is readily apparent. This is an important feature in any application but it is especially important where a battery of synchronous-driven pumps discharges into a common header. Burned-out motors can be practically eliminated when R-S Butterfly Valves are installed, since it requires only a few seconds of an operator's time to shut off the discharge valves until the pump has gained the desired speed.

Equipped with hand wheel or chain wheel control, the standard 125-pound valves not only fulfill all requirements to better advantage, but cost less to purchase and install than conventional type valves. No line damage when equipped with hydraulic cylinder for power operation. Straight-through flow—control and shut-off—for any material that flows or is forced through a pipe. Write for catalog No. 14-B

VALVE DIVISION
R-S PRODUCTS CORPORATION • 4531 GERMANTOWN AVE., PHILADELPHIA 44, PA.

R-S Streamlined
BUTTERFLY VALVES

When inquiring specify CP9469 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

Hendric Mitco Open Steel Flooring



Mitco panels are pressure-formed without the use of mechanical locking devices. No rivets or bolts to fail. No welding to cause residual stresses. Only carefully selected square edge steel bars of the correct chemical and physical properties are used. Bearing bars are dovetailed to receive the cross bars. Hundreds of tons of hydraulic pressure force the cross bars into the bearing bars so the metal COMPLETELY FILLS THE DOVETAILS, locking Mitco into an integral unit, protected at this vital point from all atmospheric corrosion, acid fumes and other destroying elements.

HENDRICK MANUFACTURING COMPANY

Carbondale, Penn.
30 Church Street, New York City
Sales Offices in Principal Cities

We manufacture of perforated metals, perforated metal screens and decorative grilles; light and heavy steel plate construction.

When inquiring specify CP9470 — see information request blank, pgs. 2-3

**CLIPPER
MADE THIS CUT
IN 5 SECONDS**

Clipper Masonry Saws provide fast, economical cutting of special sizes and shapes of Clay, Concrete, Magnesite, Sillimanite, Acid Resistant Brick and other refractories.

Precision cuts easily made assuring tighter joints and longer lasting walls and arches in furnaces, boilers and acid chambers. Greater salvage of materials made possible through use of this equipment.

FREE TRIAL IN YOUR PLANT.

Complete information sent on request.

**CLIPPER MANUFACTURING CO.,
4034 Manchester, St. Louis 10, Mo.**

*Write for
DESCRIPTIVE
LITERATURE*



When inquiring specify CP9471 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

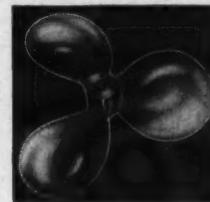
PRODUCTION

2 & 3 Blade Propellers For Mixing, Agitation

Available in various materials; designed for balanced, vibrationless operation

Uses — For mixing and agitation in processing of chemical and food products. For many specialized and individual applications as well as in original equipment.

Features — These propellers embody a "machined pitch" design for perfect pitch, balance and vibrationless operation.



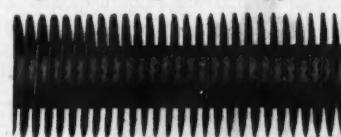
Description — Available in bronze, cast steel, Monel, stainless steel, cast iron, aluminum. In two and three blade models, the former in sizes ranging from 3 inches to 18 inches in diameter, the latter in 3 inches to 3 feet diameters. Detailed information in connection to specific requirements on request.

MICHIGAN WHEEL CO., Dept. CP, Grand Rapids, Mich.

When inquiring specify CP9472 — see information request blank, pgs. 2-3

Low Temperature Finned Refrigeration Pipe

Corrosion resistant; adapted to range of refrigeration applications



FINNED PIPE

Uses — As transfer surface for low temperature industrial applications; for use in the fabrication of refrigeration equipment.

Description — Manufactured in standard pipe sizes, furnished in straight lengths, for use in refrigeration equipment. A continuous steel ribbon is wound spirally on the pipe, the method of attaching resulting in a positive and permanent bond between fin and pipe. Assembly hot dipped in zinc bath. Available in a variety of pipe diameters, fin widths and fin spacings.

**INDUSTRIAL MFG. & ENG'G. CO.,
Dept. CP, 3841 Ravenswood Ave., Chicago 13, Ill.**

When inquiring specify CP9473 — see information request blank, pgs. 2-3

These Alloy Rabble Arms Do Not Grow or Scale; Blades Are Easy to Replace

The various processes carried on in modern multiple-hearth roasting, calcining and drying furnaces call for the continuous application of heat and the stirring or "rabbling" of the material. The rabble arms and blades used for the stirring operation are exposed to temperatures which are not excessively high, ranging from 900° to 1800° F., but they are higher than ordinary iron will resist over long periods. Too, corrosion arising from sulphurous gases and severe abrasion have a very destructive effect on anything but a properly selected chromium-nickel alloy.

Amsco Alloy F-3, containing 27 to 29% chromium and 0 to 3% nickel, is almost universally economical in roasting practice. Some rabble arms are cooled by the air which is passed through them, not primarily for cooling purposes but for preheating purposes. It is not necessary to cool

Where temperatures are on the high side and greater strength is required to prevent sagging, arms of Amsco Alloy F-10 (26-28% chromium and 10-12% nickel) are recommended. At a zinc-roasting operation a decided improvement was effected by this change in analysis.

It is seldom reported that an Amsco Alloy rabble arm, blade or tooth has broken in operation; and the service life despite heat, corrosion and abrasion is usually many times that of cast iron. Because this chromium-nickel alloy does not "grow" in service, the rabble blades not only last longer but are easier to replace, cutting down delays and labor costs.

Ask for Bulletin 108.



R-263 and R-106—Alloy F-3 rabble arms and blades.

R-617—Alloy F-10 rabble arms for higher temperatures than ordinary. Weight 235 lbs. each.



Advantages of Amsco-Nagle Centrifugal Pumps described in Bulletin 940.

Amsco
AMERICAN MANGANESE STEEL DIVISION
Chicago Heights, Ill.

FOUNDRIES AT CHICAGO HEIGHTS, ILL.; NEW CASTLE, DEL.; DENVER, COLOR.; OAKLAND, CALIF.; LOS ANGELES, CALIF.; ST. LOUIS, MO.
OFFICES IN PRINCIPAL CITIES

**AMERICAN
Brake Shoe**

When inquiring specify CP9474 — see information request blank, pgs. 2-3

Page 73

Save HEATING TIME

Hotter Iron
ARMSTRONG UNIT
TRAPPING SPEEDS UP
BED SPREAD IRONING
RATE 150% IN
MAYOTELLA LAUNDRY

Cut Cooking
For Soybean

Running Plant Sp
Up Cooking Kettle
Save Two Hours
MODERNIZATION
STEAM CONSUMPTION CUT 87.5%
RAISED TO

40%
FASTER HEATING
Of reports that have
been turned in over the
past 13 years dealing
with faster heating so-
cured by Armstrong
trapping, those that give
figures show an average
speed up of 40%.

to speed up Production

WITH time, fuel, manpower and industrial equipment all at a premium, it is vitally important that no method of speeding up production be overlooked.

Heating time on steam-jacketed equipment, unit heaters, dryer rolls, cookers, evaporators, and other heating and process units, can often be cut a surprising degree by Armstrong Unit Trapping.

Automatic Air Elimination — Air in heating units, dryers and other process equipment dilutes steam, reduces its temperature and impedes heat transfer. Armstrong Traps speed up heating by eliminating air automatically along with the condensate.

Automatic Condensate Drainage — Sluggish condensate elimination slows up heating. Armstrong Traps remove condensate as fast as it accumulates and under all load conditions, without steam loss. Steam saving means fuel saving.



ARMSTRONG MACH. WKS.
880 Maple St. Three Rivers, Mich.

Armstrong
STEAM TRAPS • AIR TRAPS • PURGERS • HUMIDIFIERS

When inquiring specify CP9475 — see information request blank, pgs. 2-3

Page 74

PRODUCTION

Fire Clay Bricks

Three new additions to line of fire clay bricks are described in maker's recently issued four page bulletin. The first of these (HYEX) is for all general applications where resistance to spalling is the principle consideration such as: boiler furnace linings, forging furnaces, soaking pits; the second (SUPER-EX) is used where heavy loads are imposed on brickwork and for sprung roofs and arches, glass tanks and sodium silicate furnaces; third (SUPERAM) possessing same characteristics as the other two but made to size required on order. The first two are available in standard series and commercial 10, 12, 13 1/4 in. series. All are made from selected Missouri flint clays.

MCLEOD & HENRY CO., Dept. CP, Troy, N. Y.

When inquiring specify CP9476 — see information request blank, pgs. 2-3

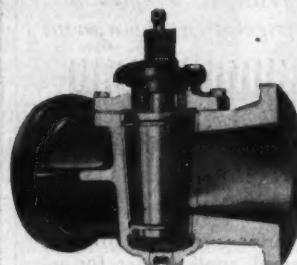
Do You Have a New Product?

improved product, either plant or laboratory equipment . . . or a new improved material . . . of specific interest to the chemical process field? If you will submit detailed information including uses, specifications, performance, distinctive features, nature of accompanying photos, drawings or size of cut available, our Editors will consider it carefully for presentation to the 25,000 readers of this publication. There is no obligation. Write the Editors.

CHEMICAL PREVIEW

737 N. Michigan Chicago 11, Ill.

NORDSTROM Lubricated VALVES



For Safest Chemical Control

Lubrication within a Nordstrom Valve seals the ports against internal or external leaks. The plug is constantly seated on a pressure film of lubricant. Sizes, 1/2" to 30" for all temperatures and pressures. Made of Semi-Steel, Nordco Steel and special alloys for all chemical services.

KEEP UPKEEP DOWN

MERCO NORDSTROM VALVE CO.

A Subsidiary of Pittsburgh Equitable Meter Co.

Main Offices: 400 Lexington Ave., Pittsburgh 8, Penna.
Branches: Atlanta, Boston, Brooklyn, Buffalo, Chicago, Columbia, Houston, Kansas City, Los Angeles, New York, Oakland, San Francisco, Seattle, Tulsa.

When inquiring specify CP9477 — see information request blank, pgs. 2-3

PROTECT Vital HANDS

PREVENT PRODUCTION LOSS
DAMAGE CLAIMS • ABSENTEEISM

All-Neoprene Latex INDUSTRIAL GLOVES

Impermeable to practically
All Acids and Caustics
Highly Resistant to Oils
and Greases



4 POPULAR STYLES

★ No. 5760-5, 18" LONG
EXTRA LONG GAUNTLET
GAUGE .030 TO .040
SIZES 10-11

★ No. 5705-5, 11" LONG
SHORT GAUNTLET
GAUGE .020 TO .025
SIZES 9-10-11

★ No. 5737-2, 14" LONG
LONG GAUNTLET
GAUGE .030 TO .040
SIZES 9-10-11-11 1/2

★ No. 5703-5, 10 1/4" LONG
LIGHT WEIGHT
GAUGE .015
SIZES 7-8-9-10-11

★ Request samples and quotation on these extra-serviceable gloves available to you now for industrial purposes only.

Seiberling LATEX PRODUCTS CO.
354 - 4th Ave., New York City Merchandise Mart, Chicago

When inquiring specify CP9478 — see information request blank, pgs. 2-3

CUT HANDLING COST of One Man Doing Work of Three BARRELS, DRUMS

One man easily loads and transfers up to 800 lb. drum or barrel loads automatically smoothly — saving time and the cost of two or three helpers — with this amazingly simple and strongly built truck. It pays for itself over and over again!

Get full particulars now —

WRITE FOR FREE BULLETIN



Type L-3

SABIN
One-Man
TRUCK

DISTRIBUTORS WANTED

The Sabin One-Man Truck sells on sight and is outstanding for repeat orders.

The Sabin Machine Co.
6536 Carnegie Ave.
CLEVELAND, OHIO

When inquiring specify CP9479 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

Place a SPARKLER between your CRUDE and FINISHED PRODUCTS



Sparkler Filtration will improve any product.

Let our laboratory suggest the proper style of Sparkler Filter for your product to get quality, speed and clarity.



SPARKLER
HORIZONTAL PLATE
FILTERS
MFG.
COMPANY

244 Lake St., MUNDELEIN, ILL.

When inquiring specify CP9480 — see information request blank, pgs. 2-3

THE BEST WOOD ROLL FOR DRY SERVICE EVER MADE...

"Shaf-tite" Roll No. 252



SHAFTS ARE ANCHORED WITH PATENTED "SHAF-TITE" HEADS

That's what customers say who have been using these "Shaf-tite" No. 252 LAMINATED Wood Rolls for years. Made of kiln-dried pieces, glued under heavy pressure. Shafts are "anchored" with patented "Shaf-tite" heads. Standard sizes — 4 to 10 inch diameter. Write for quotation.

RODNEY HUNT

"Shaf-tite" ROLLS

RODNEY HUNT MACHINE CO., 273 Maple St., Orange, Mass., U.S.A.

When inquiring specify CP9481 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

PRODUCTION

Floor Sweeping Magnet

For thorough removal of nails, screws, scraps; easy to use in and around machinery

Uses — As scrap picking magnet for use on plant floors for thorough removal of nails, screws, washers, etc. It contributes to scrap conservation, safe working con-



METALLIC REFUSE SWEEPER

ditions and protection of rubber tires.

Features — The drum magnet revolves on an 18 in. working face making it practical for sweeping in and around machinery and yet wide enough for fast cleaning in open spaces. Light weight, easily portable for fast, efficient operation.

Description — The sweeping unit consists of a drum permanently magnetized to eliminate cumbersome energizing cables, and is mounted on a convenient chassis designed with anti-friction bearings through-out.

STEARNS MAGNETIC MFG. CO., Dept. CP, Milwaukee 4, Wis.

When inquiring specify CP9482
— see information request blank, pgs. 2-3

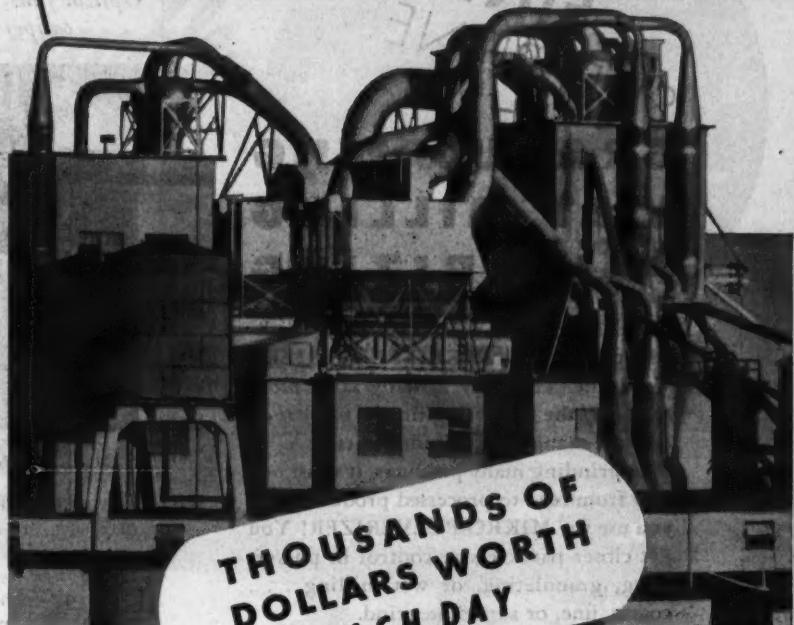
Lubrication Plan

A lubrication plan for industry embodying lubrication manuals, wall charts, folders, posters and technical bulletins has recently been made available. The material is designed to provide proper maintenance data on proper lubrication and increase the efficiency with which such operations are carried out. The material in the technical bulletins covers a wide variety of industrial machinery. Information concerning this plan on request.

SUN OIL CO., Dept. 40, Philadelphia 3, Pa.

When inquiring specify CP9483
— see information request blank, pgs. 2-3

DRACCO DUST CONTROL
★ Recover Valuables



The **valuables recovered by DRACCO Dust Control amounts to thousands of dollars each day. In many installations elimination of a serious dust hazard was the primary object but a profitable by-product was the recovery of valuables which often paid for the entire installation. The elimination of dust, even in small and what appears to be inconsequential quantities, should be given serious consideration because dust is destructive in so many ways. DRACCO Dust Control improves working conditions and increases plant efficiency. It will lower maintenance cost and prolong the useful life of equipment. Why not consult DRACCO Engineers? For over 30 years they have corrected dust conditions of every description.**

For Further Information write

DRACCO CORPORATION

4060 E. 116th St., Cleveland 5, Ohio — New York Office, 130 W. 42nd St.

PNEUMATIC CONVEYORS • DUST COLLECTORS

When inquiring specify CP9484 — see information request blank, pgs. 2-3

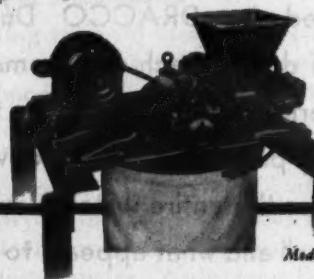
Page 75

**COARSE
FINE OR
SUPERFINE
GRANULATING
WET MILLING
PULVERIZING**

Comparisons with ordinary milling methods prove that MIKRO-PULVERIZER "feed-line" efficiency actually saves more than half the processing time — more than half the manpower and fuel costs.

In grinding many products, it's just one step from feed to processed product when you use the MIKRO-PULVERIZER! You get closer particle size control in pulverizing, granulating, or wet milling . . . coarse, fine, or superfine grind.

And that goes for chemicals, food, dyes, starches — crystalline, amorphous, smearable, or hygroscopic materials!



Model # 2-TH

The MIKRO-PULVERIZER blends and pulverizes in one operation!

- Eliminates screening
- Keeps air dust-free
- Reduces cleaning time up to 90%
- Saves power from 25 to 75%
- Requires a minimum of attention of unskilled help — mesh controlled mechanically
- Needs little floor space — no steel or concrete foundations

PULVERIZING MACHINERY COMPANY
60 Chelten Road • Summit, New Jersey

**MIKRO
PULVERIZER**

When inquiring specify CP9485 — see information request blank, pgs. 2-3

Page 76

PRODUCTION

Instruments Brought to Point of Work on Compact, Sturdy Truck

Optical flats, monochromatic light, 83 gauge blocks, calipers, trammel points etc. included.



MOBILE INSPECTION UNIT

sent to inspection department; avoids lost production and necessity of scrapping because dimensions are not as required.

Description — Mobile unit occupies area approximately 24 x 42 inches. From light waves viewed through an optical flat, produced by a monochromatic light as its basic standards of measurement, there is provided a set

Uses — This mobile unit makes available at point of work all the necessary instruments and gauges ordinarily included in an inspection department, to constantly certify that all work measuring instruments in tools and machines are correctly set.

Features — Eliminates shut-downs and delays while measuring instruments and parts are

Work, travel and play at night are here to stay. Operations out-of-doors, underground and in vapor and gas laden atmospheres are on the increase.

Equipment failures are inexcusable, because there is a time-tried Russell & Stoll fitting and fixture for every known hazardous location. Besides lighting fixtures, plugs and connectors, R & S provides switches, circuit breakers and a score of accessories for outdoor and restricted areas.

Supplied as single units or combined on a panel, these products are precision-built and based on a specialized experience of more than forty years. Sold by jobbers everywhere. Ask for the 300 page R & S catalog.

**EXPLOSION-
PROOF**



RUSSELL & STOLL COMPANY
EXPLOSION-PROOF, WATER-TIGHT AND EVER-LOK RECEP-
TACLES, PLUGS, CONNECTORS, SWITCHES AND FIXTURES
125 BARCLAY STREET NEW YORK 7, N.Y.

When inquiring specify CP9487 — see information request blank, pgs. 2-3

The Fluidometer

**Automatic
LIQUID
METERING
SYSTEM**

**For Batching
Liquids
Accurately**



• The Fluidometer System is a simple, dependable, completely non-manual metering system for batching light or heavy liquids. With the Fluidometer, human attention and human judgment are eliminated. The precisely calibrated mechanism automatically delivers the predetermined quantity — then automatically resets for the next delivery. Adaptable to either hot or cold materials. Accuracy proved in laboratory tests and in actual operation. Write for descriptive literature.

HETHERINGTON & BERNER Inc.
711 Kentucky Avenue • Indianapolis, Indiana

Hetherington & Berner

When inquiring specify CP9486 — see information request blank, pgs. 2-3

**Many War Plant
FLUORESCENT LIGHTING
Improvements Call for...**



**TYPE H-G SEALED-FLO
PORCELAIN ENAMEL STEEL UNITS**

Listed by Underwriters' Laboratories for Class II, Group G, Class III and Class IV Hazardous Locations

Where manufacturing operations require more light and the location requires dust-tight fixtures, specify Benjamin Sealed-Flo units. These extremely durable porcelain enamel fixtures, with their one piece steel reflector and special type glass cover, seal the interior against dust, dirt and dampness so that lighting efficiency is easily maintained.

Units are available for two and three lamp arrangements and embody many exclusive Benjamin features which facilitate installation, relamping and maintenance. Complete Catalog Bulletin on these units will be sent without cost or obligation. Write Product Information Dept., LL, Benjamin Electric Mfg. Co., Des Plaines, Ill.

BENJAMIN
Lighting Equipment

When inquiring specify CP9488 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

of gauge blocks, gauging instruments and comparator to intercept this standard of measurement in checking dimensions of parts and tools. The set of eighty-three precision gauge blocks have an accuracy in height, flatness and parallelism which is plus or minus .000004 in. A calibration chart lists height, flatness and parallelism of these blocks. The set of twenty different precision measuring instruments include calipers, trammel points, center points, scribes, base blocks, gauge holders of 2, 6, 9, 12 in. capacities, vernier gauge block, master square, sine bar, straight edges, master flat and 12 x 24 inch surface plate. There is also an illuminated magnifying glass on a stand. Unit is all steel construction and working surface is covered with heavy duty linoleum and is easily moved on four rubber tired sturdy casters which can be locked to anchor it when in use. Drawer and pull out desk for making and keeping records. Collapsible chair also furnished.

CONTINENTAL MACHINES CO., Dept. CP, 1301 Washington Ave., South Minneapolis, Minn.

When inquiring specify CP9489 — see information request blank, pgs. 2-3

Hydraulic Press Easily Modified To Individual Requirements

With or without hot plates or automatic pressure controls; for plastics, compreg wood, other combinations in production and laboratory work.



HYDRAULIC PRESS 30x30 in. size

18, 24x24, 30x30 inches. Illustration shows 30x30 inch general purpose hydraulic press without hot plates and without pumping unit. Presses furnished without or with two or more electrically or steam heated hot plates, and with handpump, single or double, motorized or pneumatic pumping unit, with or without automatic pressure controls. With this frame construction daylight can be made whatever is specified, and it can be made adjustable for different daylights. The only factor limiting the number of hot plates employed is the maximum daylight opening that is practical for this size press and the clear opening the work requires. Bulletin L-1 on request.

CHARLES E. FRANCIS CO., Dept. CP, Rushville, Ind.

When inquiring specify CP9490 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

BROWN FINTUBE'S

Easy to Assemble

GASKETED HEAD SEAL



offers many outstanding advantages



Brown Integrally-Bonded Fintubes are used in all Brown Fintube Heat Exchangers,—are available in Exchangers made by most other manufacturers,—and are ideally suited for many other heating and cooling services. Furnished in plain, "longitudinal," or "cut and twisted" types,—wide range of sizes in low carbon or special steels. Design assistance furnished gladly.

★ Consisting of two split collars, provided with cap screws, which can be tightened to force the solid ring and gasket against the shoulders of "positioning fittings" welded on the shell and fintube — (see view above),— the new head seal on Brown Fintube Sectional Heat Exchangers has won enthusiastic acclaim from operating and maintenance men.

This new seal is easily assembled and disassembled with only a small movement of the cap screws—and using a standard wrench—thus permitting the exchanger sections to be mounted side by side—saving space. It avoids lapped, gland, or ground joints—and since all parts are easily accessible for cleaning, the seal assures positive, tight closure—time after time—free from dirt—and without any outboard stress, or any torsional twisting of either the shell or fintube. The seal holds exceedingly high pressures without "bleeding"—can be used with either composition or metallic gaskets,—and offers many other advantages. But send for Bulletin No. 432. It gives full details about Brown Fintube Sectional Heat Exchangers,—gives dimensions of standard units,—and contains other data of much interest to engineers and operating men.

THE BROWN FINTUBE CO.
119 FILBERT STREET • ELYRIA, OHIO

MANUFACTURERS OF INTEGRALLY BONDED FINTUBES AND FINTUBE HEAT EXCHANGERS

When inquiring specify CP9491 . . . see information request blank, pgs. 2-3



ALL ROADS LEAD TO HARPER

When you need fastenings that (1) resist rust and corrosion . . . (2) are non-magnetic . . . (3) are practically non-sparking . . . (4) are usable again and again . . . your road leads to Harper's.

The Harper organization is known as "Headquarters for Non-Ferrous and Stainless Fastenings" because it specializes on these products . . . makes nothing of common steel. Harper stocks 4280 different items . . . operates hundreds of modern machines especially planned for the manufacture of fastenings . . . maintains a large staff of field service engineers. New, colorful 1944 catalog and reference book will be ready soon.

BRASS
BRONZE
COPPER
EVERDUR
MONEL
STAINLESS

THE H. M. HARPER COMPANY
2615 Fletcher Street, Chicago 18, Ill.
BRANCH OFFICES:
New York City • Philadelphia • Los Angeles
Milwaukee • Cincinnati • Houston
Representatives in Principal Cities

HARPER
EVERLASTING FASTENINGS

When inquiring specify CP9493 — see information request blank, pg. 2-3

Page 78

PRODUCTION

Rail Units Quickly Move Sausage Through Smoking, Cooking Process
System carries meats through various steps from receiving department to loading on trucks

Uses — Flexible, rapid handling of materials and products in receiving, shipping, transporting, spotting raw, bulk materials, bags, barrels, crates, drums and containers as well as moving all kinds of materials through various stages of processing as shown in accompanying illustration (racks supported on rail system carry sausage to smoke houses, steam cookers and coolers.)

Features — This equipment not only speeds operations in plant by efficient routing of products through various process steps but contributes to quick and accurate loading of trucks. After orders have been weighed and packed they are placed on special loading carriers which are quickly moved on the overhead track to the truck loading platform. Each waiting truck is served by its own carrier containing its complete load, eliminating chance of errors and omissions.

Descriptions — These overhead installations are installed to meet specific requirements. The track is formed of twin sections of specially rolled high carbon steel, bolted together. This assures easy bending of curves and flexible application throughout system. One piece hangers are drop forged and anchored in rail head to provide great strength at all points where heaviest loads must be supported. All racks and auxiliary carrying equipment may be selected to fit individual needs as imposed by head room, switching facilities desired and construction. Installation illustrated here (H. F. Busch Co., Cincinnati, O.) is in plant with capacity of 70,000 pounds of sausage per week as well as hot tamales and other meat specialties. Starting with receiving department, sides of beef and all fresh meats are hooked onto the rail system and delivered to holding cooler. From this cooler, the raw meat is processed and stuffed into sausage casings and after being linked into proper lengths the sausage is hung on racks supported on the rail system. From the stuffing tables these racks are pushed into smoke houses. The racks of sausage are then moved along the track to steam cookers, where after cooking the sausage is chilled with water spray in this same compartment. The processing completed the racks then are moved to finished process coolers. Installations provides for easy additions to rail system as in this instance required by new wing of refrigerators and freezers. Detailed information concerning this overhead handling system and equipment available for individual



SAUSAGES MOVE THROUGH PROCESSING on racks suspended from overhead track

THIS BOOKLET

Tells WHY and HOW

CARDOX

FIRE EXTINGUISHING SYSTEMS

Provide



Learn how: five fire extinguishing requirements are met in a single system; how systems are engineered for the specific hazards covered; how carbon dioxide is given enhanced fire extinguishing performance; how carbon dioxide is released in mass discharge at high rate of application; how one hazard or many can be protected by a single system. Illustrates various types of hazards and type of application required for each. Ask for Bulletin 1654.

CARDOX CORPORATION

1554 Bell Building, Chicago 1, Illinois

When inquiring specify CP9493 — see information request blank, pg. 2-3



One woman vs. three men! . . . the

Sperry EHC Closing Device conserves your manpower

SIMPLE ADJUSTMENTS at two points, and one woman completes work that ordinarily requires three men. That is the manpower saving offered you when you install the Sperry EHC Closing Device.

It can be applied to any existing filter press with minor alterations. On Sperry presses, substitution of the crosshead and connection to the electric system is all that is necessary.

Write today for complete information

D. R. SPERRY & COMPANY

BATAVIA, ILLINOIS

Filtration Engineers for over 46 years

When inquiring specify CP9494 — see information request blank, pg. 2-3

CHEMICAL PREVIEW

MORE SERVICE AND PROTECTION

with Surety Sureseal Synthetic

GLOVES APRONS SLEEVES

Surety's remarkable Sureseal synthetic means super resistance to acids, chemicals, oils, solvents, paints. Endorsed by users everywhere as "Quality that endures." Write for new Surety bulletins, get complete information on gloves, aprons and sleeves.

Surety
RUBBER COMPANY
BARRINGTON, OHIO

When inquiring specify CP9495 — see information request blank, pgs. 2-3

WHEN BETTER METALS ARE MADE — GROEN WILL USE THEM



Widely popular with chemical plants is the GROEN Mixer Type Stainless Jacketed Kettle shown above. Equipped with single or double-motion motor driven agitators. Motor and gear reducers fully enclosed . . . mounted on steel channel across top. Kettle interior of Stainless Steel . . . exterior of Stainless-clad. Used in country's most prominent plants whose products require strictest efficiency in processing. If you are needing such a kettle now, consult our Priority Division. Write us today.

GROEN MFG. CO. (HALF A CENTURY)
4537 West Armitage Avenue Chicago 39 ILLINOIS

When inquiring specify CP9496 — see information request blank, pgs. 2-3

MAY-JUNE, 1944

PRODUCTION

requirements available on request. Profusely illustrated booklet features section devoted to food plant installations.

AMERICAN MONORAIL CO., Dept. CP, 13107 Athens Ave., Cleveland, Ohio.

When inquiring specify CP9497 — see information request blank, pgs. 2-3

2 Finger Open Back Work Handler

All seams sewed with steel thread to provide rip proof service.



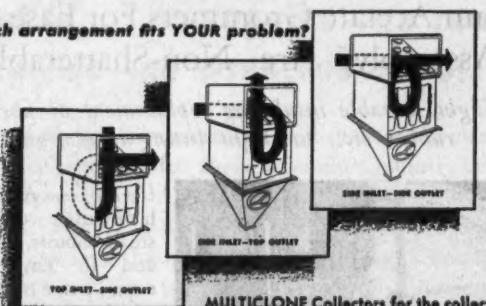
WORK HANDLER
with open back

INDUSTRIAL GLOVES CO., Dept. CP, Danville, Ill.

When inquiring specify CP9498 — see information request blank, pgs. 2-3

THE MULTICLONE IS ADAPTABLE TO YOUR SPACE REQUIREMENTS

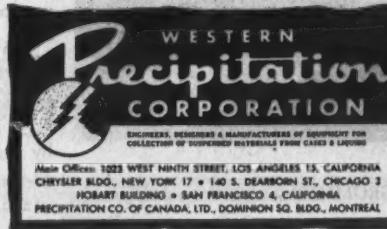
Which arrangement fits YOUR problem?



MULTICLONE Collectors for the collection of dust, fly ash and other suspended particles from gases offer many basic advantages . . . one of which is their ability to fit into "shoe-horn" spaces—areas too small for other equipment—waste spaces with low headroom or tight side clearances. Where low headroom is a factor the MULTICLONE can readily be installed with side inlet-side outlet to minimize vertical height. Or where side clearance is a factor, side inlet-top outlet or top inlet-side outlet installations can be made.

Besides unusual compactness and adaptability, the MULTICLONE has many other vital advantages. Get the full story on how it is simpler to install, easier to maintain and gives higher efficiency. Send for booklet!

BUY
U.S. BONDS
STAMPS



Engineers, Designers & Manufacturers of Equipment for
COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Office: 1023 West Ninth Street, Los Angeles 15, California
CHRYSLER BLDG., NEW YORK 17 • 140 S. DEARBORN ST., CHICAGO 3
HOBART BUILDING • SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

When inquiring specify CP9499 — see information request blank, pgs. 2-3

Get your copy

OF THE NEW MOYNO PUMP BOOK?



Send for it NOW—
to Help Solve Your
TOUGH Pumping
Problems!

Now is the time to give your pumping setup a really critical analysis. For, with today's demands, the type of pumps you use might well account for the difference between output goals met or missed—and between profit and loss.

This new R & M Moyno Pump book will aid you in making that analysis, because it compares the revolutionary Moyno Pump with other types—weighing its advantages on the scale of actual experience in countless industries. The Moyno has *cut maintenance costs* to a fraction of former bills, because of its unprecedented resistance to wear. It has slashed down-time way down, because of its extreme accessibility. And it has improved product *quality* by handling heavy viscous and abrasive liquids—with out turbulence or cavitation.

Get your copy of this new book! It was written by pump engineers for *other* engineers and production men—in specific, ungarnished, factual terms. And it's yours . . . for the asking. Mail this coupon today!

ONLY ONE MOVING PART!

Here's the patented principle of the R & M Moyno Pump's amazing performance. A single-threaded helical rotor revolves in a double-threaded helical stator, providing pumping action like that of a piston moving through a cylinder of infinite length.



Moyno pumps are manufactured under R. Moineau patents.

ROBBINS & MYERS, Inc., Moyno Pump Division, Springfield, Ohio

Please send me the new 8-page book on the R & M Moyno Pump.

Name _____

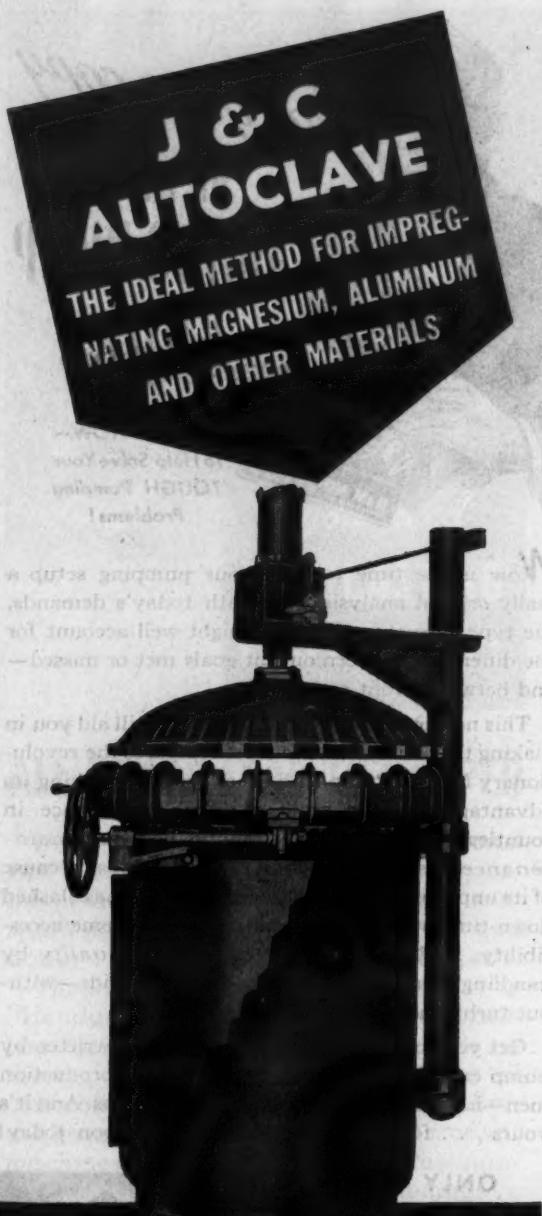
Firm Name _____

Address _____

Pump will handle _____

When inquiring specify CP9500 — see information request blank, pgs. 2-3

Page 79



If you have a problem of densifying magnesium, aluminum, wood or fibrous materials, it will pay you to get the facts about the J & C Autoclave. This ingenious, impregnating system, designed and perfected for one of the country's largest chemical firms is equipped for either steam or electrical heating, and has proven its efficiency. Write for complete information.

JACKSON & CHURCH COMPANY, SAGINAW, MICHIGAN

When inquiring specify CP0501 — see information request blank, pgs. 2-3

Page 80

PRODUCTION

Barrel-Lift Raises, Moves, Tilts, Rotates, Empties Quickly, Safely

One man operation, load always under control by safety lock; capacity 750 lbs. gross weight



LIFT FOR BARRELS, DRUMS

preceded by rotation for position is resumed on release.

Description — All steel welded construction, with rigid steel pipe carriage base, structural channel supporting members, bent steel plate parts and cast iron steel ratchet mechanisms and casters. Bulletin 104 on request.

FALSTROM CO., Dept. CP, 76 Main Ave., Passaic, N. J.

When inquiring specify CP0502 — see information request blank, pgs. 2-3

Spun Acetate Grommets For Ease Of Assembly; Are Non-Shatterable

Light, durable insulating replacement of fibre, rubber etc., for tight fitting insulation



GROMMET spun over on drill press

Description — Manufactured of acetate film, spirally wound and laminated for great strength, these grommets provide unusual insulating properties com-

Uses — For handling, transporting 55 gal. drums and providing ease and close control in pouring.

Features — Enables any worker to handle drums rapidly with utmost safety. Drum easily rotated for thorough mixing of contents. Drum automatically returns to upright position after tilting to pour.

Operations — Barrel lift is pushed up to drum, chain is fastened in ratchet and tightly around drum, drum is raised by pulling down lever arm, drum may then be wheeled; additional pressure on arm raises drum for pouring, which may be mixing if desired, upright

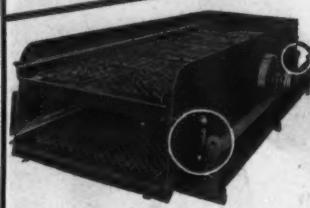
preceded by rotation for position is resumed on release.

Description — All steel welded construction, with rigid steel pipe carriage base, structural channel supporting members, bent steel plate parts and cast iron steel ratchet mechanisms and casters. Bulletin 104 on request.

FALSTROM CO., Dept. CP, 76 Main Ave., Passaic, N. J.

When inquiring specify CP0502 — see information request blank, pgs. 2-3

There is . . .
A Right *SECO Vibrating Screen
for any Chemical Screening Need



*A Right Seco

for every material
FINE • COARSE
LIGHT • HEAVY

Seco Patented Auxiliary Vibrator enables efficient screening of damp, sticky materials.

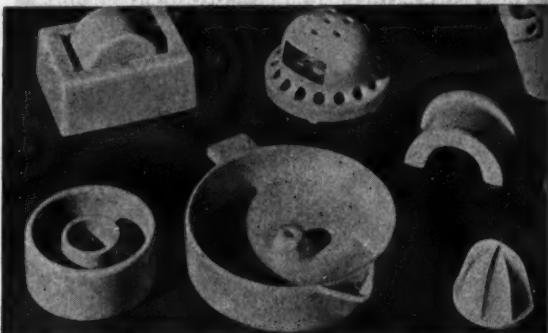
Puts Every Inch of Surface to Work

You get important results such as increased capacity due to sharper whip, minimum of blinding and closer, surer grading. Dependable, time proven Seco Screens are on the job, everywhere.

Send TODAY for
FREE CATALOG, Dept. E

SECO SCREEN EQUIPMENT CO., INC.
9 Lafayette Avenue, Buffalo 13, N.Y.

When inquiring specify CP0503 — see information request blank, pgs. 2-3



COLONIAL PORCELAIN

useful in chemical industry

Colonial makes all types of porcelain to serve every conceivable purpose. Many colors besides white are available. Colonial Porcelain pieces, parts and fittings are made to customers' specifications and are molded to uniform tolerances. Quality, too, is uniform, for each piece is processed in gas-fired kilns in which temperature is controlled within a narrow range.

Important for chemical uses is Colonial Porcelain's alkali and acid resistant qualities. Also it will not rust or disintegrate and is fire and fume resistant. Send us samples or drawings for price quotations.



The Colonial Insulator Co.
967 Grant St., Akron, Ohio
Chicago Office: 1706 Fullerton Ave.

When inquiring specify CP0504 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

combined with non-shatterable toughness of the material. The grommets are light-weight, resistant to oil, moisture and all climatic conditions. The heat of the spinning operation actually shrinks the thermo-plastic material, so that a tight fitting, tough permanent insulation results. Special spinning tools and methods have been designed for "hard to get at" places. Articles in which these grommets are used may be painted or bake-enamored after the grommets have been applied. They are made to specifications in all wall lengths and diameters and all wall thicknesses. Information regarding these grommets as they concern individual requirements on request.

PRECISION PAPER TUBE CO., Dept. CP, 2035 W. Charleston St., Chicago 47, Ill.

When inquiring specify CP9505 — see information request blank, pgs. 2-3

Megohm Meter Also Serves As Condenser Leakage Tester

Essentially a direct-reading ohmeter, incorporates a vacuum-tube voltmeter to cover relatively high resistance values



MEGOHM METER

ates on 110 volt 60 cycle AC. The instrument is mounted on a sloping panel for convenience in production testing. Arrangements are provided for the rapid charging of condensers under test. An external battery voltage supply may be used where voltages other than the self-contained 200 volt supply are desired. The instrument may be satisfactorily operated with external voltages up to 1000. Internal resistance standards enable the operator to check calibration and make compensating adjustments when necessary. Full length of scale is 3 3/4 inches with less crowding at high resistance end than is usual in such an instrument. Using the internal 200 volt supply, maximum range extends from 1 megohm to 100,000 megohms in four overlapping ranges but can be extended to 500,000 megohms with an external 1000 volt supply. Maximum resistance in series with condenser or insulation under test is only 1 megohm. This assures practically constant voltage across test terminals and minimizes the effect of tube ground current. Stability is assured by balanced tube circuit and voltage regulators in the internal power supply. The model L-2 Megohm Meter measures 10 in. x 8 in. x 13 in. deep and weighs 10 lbs.

INDUSTRIAL INSTRUMENTS, INC., Dept. CP, 156 Culver Ave., Jersey City, N. J.

When inquiring specify CP9506 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

RIDGID
Pipe wrench
sizes are
6" to 60"

If this Housing ever breaks or breaks off we will replace it free.

RIDGID
HOUSING
doesn't break

Heads snap in
and lock...from
either side

**Handy little:
THREADER
that's a big
work-saver
RIDGID
NO. 00R**

So... no repairs — no repair expense — no wrenches out of use

When you use RIDGID, you don't need so many spares around—for these wrenches usually last till you lose them. Ask any of the millions who use them. They'll tell you also that the full-floating hookjaw and the adjusting nut *always* work freely, never bind. The no-slip jaws, handy pipe scale on hookjaw and comfort-grip I-beam handle are also things you'll like. For economy and easier work, buy the RIDGID—at your Supply House.

Its popularity comes from more than its popular price. For this small RIDGID Ratchet Threader, $\frac{1}{8}$ " to 1" pipe capacity, has many time-and-work saving features you like—heads that snap in from either side and lock; dies that reverse quickly for close-to-wall threading. Dies are of tool steel, accurately ground, easily removed for regrinding. Special conduit dies, if you want them. It pays to ask for No. 00Rs—also 111R, $\frac{1}{8}$ " to 1 $\frac{1}{4}$ " at your Supply House.



Sold by Supply Houses Everywhere



RIDGID
★ PIPE TOOLS ★

THE RIDGE TOOL COMPANY
Elyria, Ohio, U. S. A.

Millions of RIDGID Tools in use

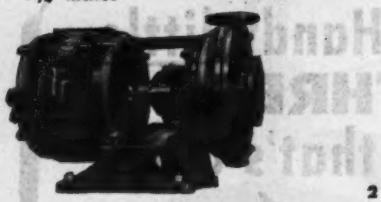


When inquiring specify CP9507 . . . see information request blank, pgs. 2-3

Page 81

PICKLING BATHS handled with ease by the OLIVITE ACID PUMPS

1 1/4 inches



2 inches

4 inches



"IT'S A GREAT PLEASURE FOR ME TO RECOMMEND YOUR OLIVITE ACID-HANDLING PUMP . . . IT MAY RELIEVE MANY HEADACHES FOR A PLANT OR DESIGNING ENGINEER" . . . this excerpt from a plant official's letter (name on request) refers to the excellent service given by an Olivite Acid-Handling Pump.

Handling pickling solutions for a major red metals producer, this Olivite pump re-circulates mixtures such as:

	Runs Start	Runs End
Sulphuric Acid	17.9%	13.1%
Ferro-Sulphate	3.5%	6.55%
Ferric Sulphate	.07%	.132%
Solids	.02%	.1025%

Temp. from 175° to 210° F.

Entrained air and free hydrogen often present.

The Olivite Acid-Handling Pump has solved many difficult chemical-moving problems. Have you a tough job that needs such a pump?

OLIVER
UNITED FILTERS
INC.

New York 18, N. Y.
33 West 42nd Street



Chicago 1, Ill.
221 N. LaSalle St.

San Francisco 11
California
Factories: Oakland, Calif.—Hazleton, Pa.—Orillia, Ont., Canada—Melbourne, Aus.

When inquiring specify CP9508 — see information request blank, pgs. 2-3

Page 82

PRODUCTION

Aircraft Tubular Rivet Finds Many Industrial Applications

Originally used for attaching de-icers; suitable for air conditioning units, radios, electrical equipment

Uses — Originally developed by engineers for aeronautical use, now available for industrial applications.

Description — The Rivnut is an internally threaded and counter-bored tubular rivet which can be headed blind, made from one of the most corrosive-resistant aluminum alloys. Of one piece construction the Rivnut is anodized and ready for use when received. By the use of special tools, either manually or power operated, which the makers Rivnut also distribute, the rivet can be pulled up and headed while working entirely from one side, forming a bulge or head on the far side. This upset is large enough to resist being pulled through the metal, plastics, or hard rubber to which the rivet is applied. Installed the Rivnut serves as a nut plate or rivet, or both. Two head style, countersunk and flat are offered, with the countersunk made in three shapes and the flat in one. Each is made in three nominal sizes, available in six grip ranges. They can be supplied with open or closed ends, and with or without keys under the head in all styles except the thin head counter-sunk type, where the key cannot be supplied. Typical examples of Rivnut applications include cabinets, expansion nuts for wood floors, stove pipes. Minimum priority required for industrial range is AA — 5.

B. F. GOODRICH CO., Dept. CP, Akron, Ohio.

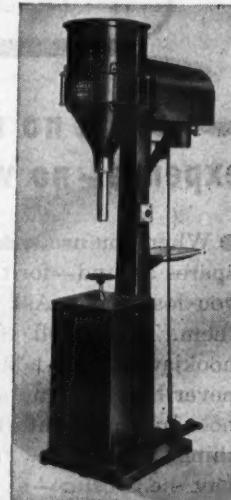
When inquiring specify CP9509 — see information request blank, pgs. 2-3

IF YOU ARE Packaging POWDERS

Triangle Can Help You

PRODUCERS of powdered chemicals or other finely divided substances or similar products requiring tight, accurate packing will find Triangle Auger Packers second to none for speed, flexibility and economy. A complete range of automatic and semi-automatic is available to meet any production requirements.

Triangle experience, based on hundreds of installations of equipment for even the hardest to handle powders, will help you get the best answer for your job in a hurry. Also a complete line of Fillers, Weighers and Carton Sealers for all dry products. Write for facts and literature today.



MODEL U
AUGER PACKER

Production 15 to 30 packages per minute. Range 1 oz. to 5 lbs. One operator required. Extreme accuracy.

Other models
for higher production.

TRIANGLE PACKAGE MACHINERY CO.

917 NO. SPAULDING AVENUE, CHICAGO

OFFICES IN PRINCIPAL CITIES, UNITED STATES AND CANADA

When inquiring specify CP9510 — see information request blank, pgs. 2-3

HELP WANTED?

these Sacking
Scales do
the Job . . .



Fill, Weigh and
Check in One
Operation —

THE EXACT WEIGHT SCALE CO.

31 W. Fifth Ave., Columbus, Ohio
Dept. E, 1104 Bay Street,
Toronto, Canada

When inquiring specify CP9511 — see information request blank, pgs. 2-3

The heaviest volume
ever . . . too few hours
in the day . . . man-
power shortage. Is this
your problem too?
Solve it with EXACT
WEIGHT Sacking
Scales. One man with
one scale can sack and
weigh accurately five
or more bags per minute—
any free flowing
chemical product. No
double handling . . .
no check-weighing. Do
it in one operation with
EXACT WEIGHT Sacking
Scales.



LOADING, moving or storing many heavy items in one operation with savings in time, space, money and manpower; that's a job for flexible handling equipment . . . for Towmotor! Yes, for speed, power and full utilization of available manpower, select Towmotor . . . the one-man-gang! Write Towmotor Corporation, 1218 E. 152nd Street, Cleveland 10, Ohio, and ask for *Towmotor Data File*. It contains complete information.

ASK FOR "DATA FILE"

TOWMOTOR

THE 24-HOUR ONE-MAN-GANG

When inquiring specify CP9512 — see information request blank, pgs. 2-3



CHEMICAL PREVIEW



Payloaders really cut handling costs

Hough "HL" Payloaders are saving money and manpower at many process plants, handling 40 to 60 tons of bulk material per hour. They pick up the load, carry it to the desired point and dump into trucks, bins, etc. Also used as a drawbar tractor for many haulage jobs.

The Payloader is designed, engineered and built as a complete tractor loader—not a tractor attachment. Engine is at rear, away from dust and dirt; also providing weight distribution and a drawbar pull of 8,000 lbs. Operator sits high and forward for better visibility and control. Bucket capacity one cubic yard; hoist capacity 3,000 lbs. Write for Bulletin 144.

THE FRANK G. HOUGH CO.
Libertyville, Illinois
"Since 1920"

HOUGH Payloader SHOVELS

When inquiring specify CP9513 — see information request blank, pgs. 2-3

MOISTURE ENGINEERING

What it can do for industry...



*"Moisture Engineering" denotes the application of the Kathabar System to air conditioning. It is a means of maintaining automatically and accurately, any desired humidity, independent of temperature...to provide ideal processing conditions and maximum personal comfort. Write for Bulletin K-42-4 or ask Surface Combustion's Moisture Engineers in to discuss your air conditioning problems.

SURFACE COMBUSTION • TOLEDO, OHIO

Kathabar System of
HUMIDITY CONTROL
ADVANCED AIR CONDITIONING

When inquiring specify CP9514 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

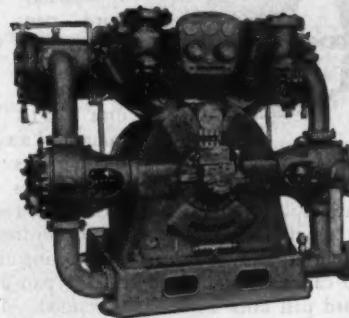
PRODUCTION

Heavy-Duty Two-Stage Air-Cooled Compressors

Twin units have common double shaft motor; one compressor with motor can be installed; other compressor added later

Uses — For heavy duty compressor service in plants and mines.

Description — Included in the selection of heavy duty two-stage air cooled compressors are the following: Class WN-



TWO-STAGE COMPRESSOR

112, Two Cylinder V-vertical type; five sizes — 378 — 914 cfm; Class WN — 114: Four cylinder semi-radial type; five sizes 1092 — 1828 cfm; Twin WN — 112: four sizes — 960 — 1828 cfm; Twin WN — 114: four sizes — 2184 — 3656 cfm. Twin units have common double shaft motor. One compressor with motor can be installed and the twin compressor added when required. Fifty-six page two color booklet shows views of many installations, gives full description of available sizes, types and drives and construction detail; also information as to foundation requirements, regulation, accessories and servicing. (Bulletin A-52).

SULLIVAN MACHINERY CO., Dept. CP, Michigan City, Ind.

When inquiring specify CP9515
— see information request blank, pgs. 2-3

Motors and Control for Compressor Drives

Low speed synchronous motors and control for compressor drives are illustrated and described in 4 page bulletin. It deals with their application and necessity of proper amount of flywheel effect to avoid excessive current pulsations. Bulletin GEA-4139.

GENERAL ELECTRIC CO., Dept. CP, Schenectady, N. Y.

When inquiring specify CP9516
— see information request blank, pgs. 2-3



BARTLETT-SNOW EQUIPMENT

FOR Catalyst PREPARATION



View in Structural Shop
— Showing welders—qualified to weld pressure vessels conforming to A.S.M.E. Code for Pressure Vessels U-68, U-69, and U-70—working on large Stainless Steel Catalyst Reactor.

● Typical of many, are stainless steel equipments —jacketed—for drying impregnated catalytic supports . . . Cylinders specially constructed to withstand the high temperatures of producing oxides . . . Equipment for processing in a reducing atmosphere, at 2000°F., that also cools the material to normal temperatures, discharges it continuously.

Whether yours is a problem of crystallization, oxidation, or reduction . . . or merely simple drying or heat treatment, call the Bartlett-Snow Heat Engineers.—It's your assurance that the equipment recommended will prove thoroughly suited to all phases of your requirement. Our Bulletin No. 89 — profusely illustrated—contains much technical data on heat processing of interest to development and operating men. Send for a copy.

THE C.O. BARTLETT-SNOW CO.
6241 HARVARD AVENUE • CLEVELAND 5, OHIO
ENGINEERING AND SALES REPRESENTATIVES IN THE PRINCIPAL CITIES

DRYERS, COOLERS, KILNS, CALCIINERS AND PRESSURE VESSELS • CONVEYING AND ELEVATING EQUIPMENT
OF ALL KINDS • COLLOID MILLS • BOILER PLANT COAL HANDLING, STORAGE AND RECLAIMING SYSTEMS
CRUSHERS, PULVERIZERS, SCREENS AND FEEDERS • POWER TRANSMISSION EQUIPMENT

When inquiring specify CP9517 — see information request blank, pgs. 2-3

Page 83

How to use electric heat for process work with CHROMALOX ELECTRIC HEATING UNITS



HOT AIR BLAST

Use Chromalox blower type air heaters—eight sizes available, 2 to 15 kw.

For forced circulation in ducts, use Chromalox air blast heaters.

Units can be nested, for extreme high temperatures.

Available in square or circular types. Many sizes, up to 40 kw.

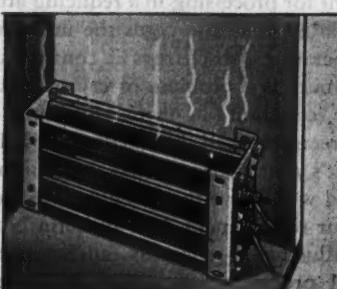
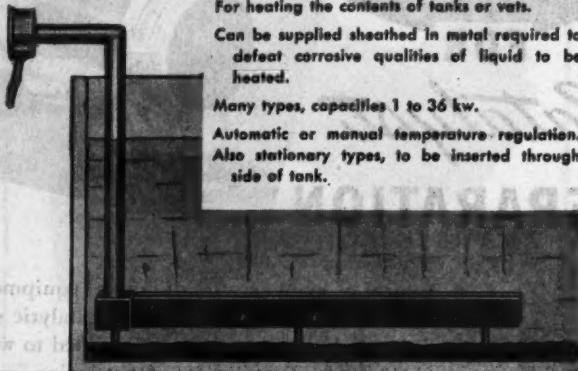
PORABLE IMMERSION UNIT

For heating the contents of tanks or vats.

Can be supplied sheathed in metal required to defeat corrosive qualities of liquid to be heated.

Many types, capacities 1 to 36 kw.

Automatic or manual temperature regulation. Also stationary types, to be inserted through side of tank.



OVEN HEATER

A complete unit for immediate installation.

The unit is built of Chromalox strip heaters mounted in end brackets.

Strip heaters are so placed as to induce and maintain constant circulation of heated air within the oven.

Double bank unit shown for floor installation.

Single bank, narrow units available for wall installation.

Many sizes, up to 5 kw.

If you have a process heat job, use our engineering cooperation. Write us, including pencil sketch of your problem. Chromalox Catalog mailed at request.

EDWIN L. WIEGAND COMPANY
7517 Thomas Blvd., PITTSBURGH 8, PA.

When inquiring specify CP9518—see information request blank, pgs. 2-3

Page 84

PRODUCTION

Third Pan on Double Ratio Scale Simplifies Counting Small Parts

Unusually high sensitivity provided by third pan attached to the lower beam lever



THREE PAN COUNTING SCALE

Operation — For example, in issuing 30,000 nuts from stock, 300 nuts are required as counters on the ordinary double ratio type counting scale. Instead of counting that number by hand 30 can be placed in the 100:1 pan and nuts poured into third pan until balance is obtained. The total in the third pan will be the required 300. These are transferred to the 100:1 pan with which a count of 30,000 can be made on the platform.

Description — These three pan counting scales are obtainable in two regular ratio combinations: 100:1 - 10:1 -

Uses — For counting, weighing materials and small parts in shipping, receiving, production departments. Typical application for third pan on this scale is for making up "counters" or unit lots to count large numbers of small pieces.

PREVENTING Contamination and Corrosion Costs Less than CURING them!

This is especially true where it is necessary to use clarifiers and chemical treatments to remove or inhibit metallic contamination and corrosion. Such curatives often upset delicate processes and are more expensive than simple prevention.

Protect your fluid gateways with Aloyco Stainless Steel Valves — made throughout of the stainless alloy you require, not just a plating or trim. Aloyco Valves are made in a complete range of types and sizes. They are available now for installations on high priorities and for maintenance and repair under M.R.O. regulations.



ALOYCO

Stainless Steel
VALVES and FITTINGS

GATE VALVES • GLOBE VALVES
Y VALVES • CHECK VALVES
LEVER THROTTLE GATE VALVES
TANK VALVES
SCREWED FITTINGS
FLANGED FITTINGS
GAUGE GLASS FITTINGS

ALLOY STEEL PRODUCTS COMPANY, INC.
100 LEWIS ELIZABETH AVENUE — LILBURN, NEW JERSEY

When inquiring specify CP9520—see information request blank, pgs. 2-3

SOLVE

FLASHLIGHT "Dry Cell Shortage"

with IDEAL
Rechargeable

STORAGE BATTERIES

for Flashlights

Replace unavailable dry cells with IDEAL Rechargeable Flashlight Storage Batteries. Enjoy a bright, steady, dependable light—always. Conserve Critical Materials. Easily recharged with IDEAL Battery Charger which is available in single, 6 and 12 gang size. Guaranteed Service. Write for Bulletin FBB 1242.

SOLD THROUGH JOBBERS

Sales Offices in all principal cities
In Canada: Irving Smith Ltd. Montreal, Quebec

IDEAL *Sycamore*
* IDEAL COMMUTATOR DRESSER CO. *

5137 Park Avenue • Sycamore, Illinois

When inquiring specify CP9521—see information request blank, pgs. 2-3

CHEMICAL PREVIEW

The Johnson Corporation

826 WOOD STREET THREE RIVERS, MICHIGAN

When inquiring specify CP9519—see information request blank, pgs. 2-3

PRODUCTION

10:1, and 99:1 - 9:1 - 9:1. Other ratios are supplied on special order. Of pendulum type construction, this scale (1133-C) has a total counting capacity of forty pounds and a total weighing capacity provided by two beams of 20 pounds x one ounce. A target type flush indicator is used to eliminate parallax and provide easy "over and under" determination. The platform measures 8 3/4 inches in diameter and is beaded to hold a scoop 19 1/2 x 10 x 6 inches. The overall height and length is 27 inches, width 15 inches. Accessories for both magnifying and illuminating the reading point are available. Single, double, triple and all-ratio models with Weightograph, Dial and Beam Indication are included in the complete line. Circular on request.

HOWE SCALE CO., Dept. CP, Rutland, Vt.

When inquiring specify CP9522 — see information request blank, pgs. 2-3

Ultraviolet Germicidal Radiation Combats Air Borne Infection

Convection air currents carry air borne bacteria into zone of ultraviolet rays projected by units

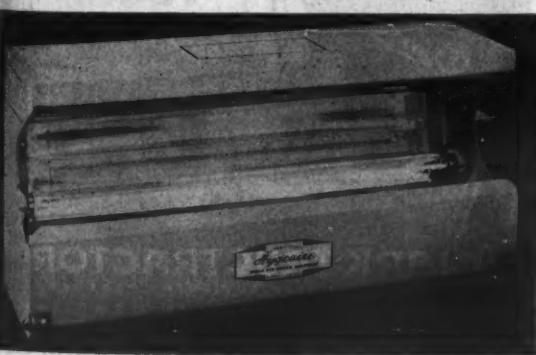
Uses — For safe application of the germicidal effects of ultraviolet rays to the disinfection of air in plants and offices. May be used in various areas where employees are required to work in close proximity. Easily installed in cafeterias and kitchens.

Features — Economical to install and operate. Each installation scientifically planned to provide efficient bacterial effectiveness. Radiation is completely shielded from workers' eyes. Light component is low and will not conflict with room lighting. Units give the effect of over 100 air changes per hour at a cost of 3c a day per 100 cu. ft. of room volume. Beam acts on living bacteria and viruses rising into this zone at distances up to 35 feet from the lamp. Tubes and reflectors easily cleaned by wiping with damp cloth.

Description — Reflector of special design distributes radiation across room entirely above the sight level. Models used GE germicidal lamps rated at 2500 hours life. After one half hour of operation the effective disinfection of air reaches 85%. Made in two units: 18 inch tube — 15 watts AC or DC 110 volts. (The DC is equipped with a pendant manual starting switch.) 30 inch tube 40 watts, AC only 110 volts. Extension cords included for convenient plugging in at available outlets. Literature on request concerning "HYGEAIRE."

AMERICAN STERILIZER CO., Dept. CP, 12th & Plum Sts., Erie, Pa.

When inquiring specify CP9523 — see information request blank, pgs. 2-3



COMPACT ULTRAVIOLET RADIATION UNIT

MAY - JUNE, 1944



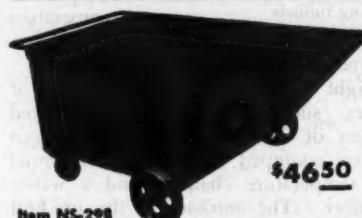
Wooden Boxes Metal Bound

May be used as a push truck or with lift truck. Built of all hardwood, completely metal bound, all welded construction, no bolts used. Four sturdy, 5" swivel casters. Metal parts are painted standard P. S. gray, wood left natural.

OFFERED IN TWO SIZES

Item NS-418A.....\$29.50
This measures 24" wide, 36" long, 26" high overall. Weight 185 lbs.

Item NS-418B.....\$33.50
This measures 28" wide, 48" long, 30" high overall. Weight 260 lbs.



Hand Dump Truck

Constructed of heavy sheet steel, reinforced with band at top edge, stout 5/8" round rod iron handle welded to truck. This truck measures 23 3/4" by 45" at the top and 25 3/4" by 27" at the bottom by 17 1/2" deep — carries about 1/2 cu. yd. and weighs approximately 125 lbs. Equipped with two 8" semi-steel wheels and two 4" metal swivel casters. Finished in P. S. gray.

Barrel Truck—Loads Automatically

Item S-911
\$3350



Sliding catch grips
held by operator;
note long
hook for
bottle type
barrel.

When Ordering . . .

Always give "Item" number; this will help prevent error.

★

Please accompany orders with your priority; it will avoid unnecessary delay.

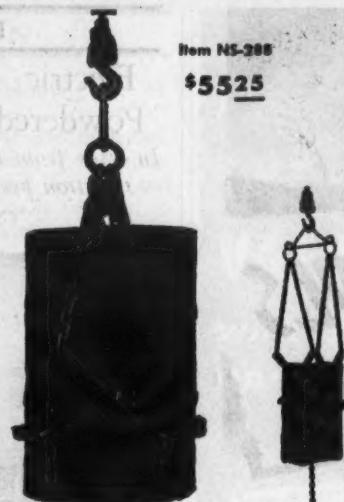
★

All prices are f.o.b. Detroit.

When inquiring specify CP9524 . . . see information request blank, pgs. 2-3

Item NS-285

\$5525



Barrel—Box Grab

For picking up any type of wood or steel barrel, box or container measuring from 40" diameter down to small nail keg size. Will lift up to 2000 lbs. Rigid toggle construction.

DESIGNERS and BUILDERS

of all types Trucks,
Skids, Pallets, Platforms,
Racks, Boxes,
Bins, Tables, for Pick-up,
Loading, Moving
Shipping, Dumping
and Storage.

Barrel Cradle

Item B-285
\$2750

Use for picking up any shape barrel or drum. Especially designed for picking up barrels and plywood or fiber drums without chimes (flush ends). Model shown handles barrels 20" to 25" in diameter and 32" to 36" in length. Capacity 1,000 lbs. Special sizes quoted on application. Heavy bar stock, welded construction. One end built rigid, pivoted end has spring tension which simplifies engaging of cradle fingers to any type drum or barrel. Painted P. S. gray. Weight 22 lbs.



Combination Truck and Drain Rack Loads Automatically

To pick up drum from standing positions (1) Tilt truck against drum. (2) Slide steel fingers down to engage top rim of drum. (3) Rock truck back to wheeling position. Sturdy frame and free rolling wheels make easy trucking of heaviest drums. Slight push downward on truck handles raises wheels and lays rack on floor, thus providing convenient drain for any drum.

Heavy angle iron frame, tubular handles, all welded construction. Two eight-inch roller bearing wheels. Weight 90 lbs.



\$4250
Item NS-506

Palmer-Shile Co.
7128 West Jefferson Ave., DETROIT 17, MICH.



DUST BOWLS ROB INDUSTRY TOO!

'Dust bowls in industrial plants aren't spectacular but . . . they are devastating! Production Enemy Dust causes equipment breakdown and increases rejects. Labor Agitator Dust makes workmen disconcerted and can become a health hazard. Overhead, Cast Expander Dust increases lighting costs, demands more painting, cleaning and speeds depreciation. Money Waster Dust lets valuable by-products float away unsavaged. Efficient plants are finding they must rid themselves of that industrial rubber dust. Don't tolerate a "dust bowl" in your plant with its attendant losses and dangers. Write for further information. Our experienced engineering staff is waiting to solve your dust problem.

The American Foundry Equipment Company, 573 S. Brykit St., Mishawaka, Ind.



AMERICAN *dustube*

When inquiring specify CP9525 — see information request blank, pgs. 2-3

ALL IN THE DAY'S WORK

Neff & Fry super-steve bins being erected at large chemical plant. Also builders of monolithic type bins.



CONSULT
N & F
ENGINEERS

GET
1944
CATALOG
NOW

Hundreds of companies, large and small, use Neff & Fry bins to store, protect and discharge automatically, bulk materials that will flow—

KAOLIN
ALUMINA
MAGNESIUM,
etc.

COAL
COKE
LIME
SAND
CLAYS
etc.

Can be made moisture proof. Can be heated. NOTE: Automatic delivery of coal and coke direct from bins to stokers a favorite application.

Almost any capacity required. Any conveyor the job requires. Export crews erect bins "in a hurry". All bins guaranteed.

THE NEFF & FRY COMPANY, CAMDEN, OHIO

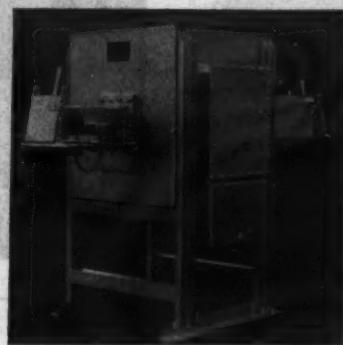
NEFF & FRY STORAGE BINS

When inquiring specify CP9525A — see information request blank, pgs. 2-3

Page 86

PRODUCTION

Electric Furnaces For Sintering Powdered Metal: 1800° F-2750° F
In sizes from laboratory to volume capacities; construction permits use of protective atmospheres; extremely accurate control



FURNACE has automatic flame curtains for preheat and cooling tunnels

ditions for high temperature hydrogen brazing.

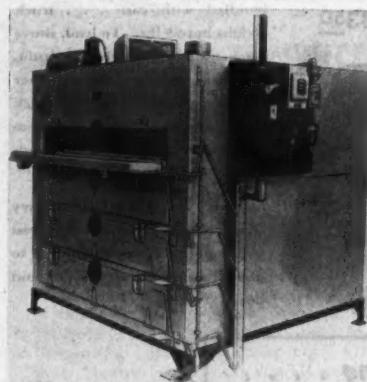
Description — Gas tight construction permits the use of protective atmospheres, such as hydrogen, dissociated ammonia and mixtures of carbon monoxide, hydrogen and nitrogen. They are equipped with a pre-heat tunnel leading to the high temperature chamber and a water-jacketed cooling chamber. The entrance to the pre-heat tunnel and the exit on the cooling chamber are equipped with automatic flame curtains. Detailed information in connection with specific requirements on request.

HARPER ELECTRIC CO., Dept. CP, Niagara Falls, N. Y.

When inquiring specify CP9526 — see information request blank, pgs. 2-3

Shelf-Type Electric Oven Heats Plastic Sheets Prior to Forming

Operating temperature range 200° — 400° F; trays hold material up to five feet square



PLASTIC TREATING OVEN . . . doors closed by foot pedal

A foot pedal permits each door to be closed by a light touch of the operator's foot when the compartment is unloaded. This eliminates the possibility of excessive heat loss through

Uses — For sintering and powdering metals at temperatures between 1800° F. and 2750° F. Applications include high temperature cementing of tungsten carbide dies and sintering of powdered ferrous and non-ferrous metal parts, heating of electronic tube parts. These furnaces also provide correct temperature and atmosphere conditions for high temperature hydrogen brazing.

Description — Gas tight construction permits the use of protective atmospheres, such as hydrogen, dissociated ammonia and mixtures of carbon monoxide, hydrogen and nitrogen. They are equipped with a pre-heat tunnel leading to the high temperature chamber and a water-jacketed cooling chamber. The entrance to the pre-heat tunnel and the exit on the cooling chamber are equipped with automatic flame curtains. Detailed information in connection with specific requirements on request.

HARPER ELECTRIC CO., Dept. CP, Niagara Falls, N. Y.

When inquiring specify CP9526 — see information request blank, pgs. 2-3



YOU'LL SAVE TIME

A NEW WAY EVERY DAY...

... so endless are the new uses to which MYSTIK Self-Stik Cloth Tape is being applied in practically every industry! WATERPROOF, extra-strong and easily applied, MYSTIK falls into hundreds of time-saving uses in production, maintenance and shipping departments.

Try MYSTIK today — ask your distributor — or write for interesting literature. Address Dept. CP, MYSTIK TAPE DIVISION, Chicago Show Printing Company, 2373 No. Kildare Ave., Chicago 39.



When inquiring specify CP9527 — see information request blank, pgs. 2-3

You Can STRETCH MANPOWER by using

CLARK FORK TRUCKS



CLARK TRUCTRATOR
DIVISION OF CLARK EQUIPMENT COMPANY
BATTLE CREEK, MICHIGAN, U.S.A.

A Product of CLARK EQUIPMENT COMPANY

When inquiring specify CP9528 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

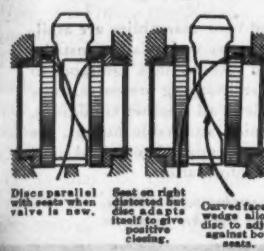
"Body Blows" THAT KNOCK OUT VALVES



ABOVE—What happens when a taper seat gate valve body is distorted is shown in these exaggerated diagrams.

BEFORE AND AFTER

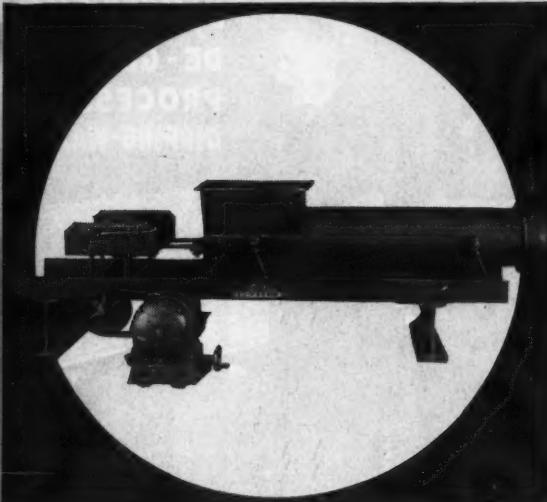
BELOW—How the Darling Fully Revolving Double Disc Parallel Seat gate valve gives positive closing despite body distortion.



DARLING VALVE & MANUFACTURING CO.
WILLIAMSPORT, PA.

When inquiring specify CP9529 — see information request blank, pgs. 2-3

AJAX Tubular LO-VEYORS



Convey Inflammable, Explosive, Abrasive and Deliquescent Materials

Ajax Tubular Lo-Veyors provide sealed-in, gas-tight protection from critical process operations. Sealed tube eliminates contamination from air-borne dust, abrasives, gases, moisture and fumes.

Write for new Bulletin 32 just off the presses

AJAX FLEXIBLE COUPLING CO.
Incorporated 1920
WESTFIELD, N. Y.

When inquiring specify CP9530 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

PRODUCTION

door being left open while operator is handling and depositing sheets.

Description — Each compartment has two shelves accommodating two full size sheets of material at one time. Positive cross-flow circulation is provided by fan and filtered air intake. Only enough fresh air is taken in to create a slight pressure in the oven which assures even temperature throughout. Desired temperature maintained by automatic control. Heaters are installed in two banks, one manually controlled, which is used to attain oven temperature quickly. The other, automatically controlled, maintains temperature. The plastic sheets are placed on cloth covered boards which in turn are supported on expanded metal trays, large enough to hold a five inch square piece of material or a number of small pieces. Oven housing walls are four inches thick with rockwool bat insulation. Oven has indicating controller, high limit switch and an air-flow safety which automatically turns off the entire oven in case of air failure.

KOCH INDUSTRIAL EQUIPMENT, Dept. CP, Evansville, Ind.

When inquiring specify CP9531 — see information request blank, pgs. 2-3

Skin Cleanser for Industrial Workers

Pocket size folder presents interesting, factual discussion of skin cleansers for industrial workers and describes powdered formula and reports findings on its use in numerous representative plants. Very low cost per worker and non-irritating properties are described. Photomicrographs shows bead formation of soap which uses pine, palm and olive oil soaps.

SUGAR BEET PRODUCTS CO., Dept. CP, 300 Waller St., Saginaw, Mich.

When inquiring specify CP9532 — see information request blank, pgs. 2-3

THE TWISTED BAR MEANS SAFETY

BLAW-KNOX ELECTROFORGED STEEL GRATING

NO OTHER GRATING LIKE IT!

Actually Blaw-Knox Grating is a one-piece, electroforged steel "material" which can be made to measure or cut to fit . . . Note these exclusive features:

1. Self-cleaning, no sharp corners to clog.
2. Maximum open area for light and air.
3. Easy to maintain . . . paint reaches entire surface.
4. Rigid electroforged construction means easy installation.
5. Twisted cross bar provides safe footing at all times.

Write for catalogue and sample.

BLAW-KNOX DIVISION of BLAW-KNOX COMPANY
2076 FARMERS BANK BUILDING, PITTSBURGH, PA.

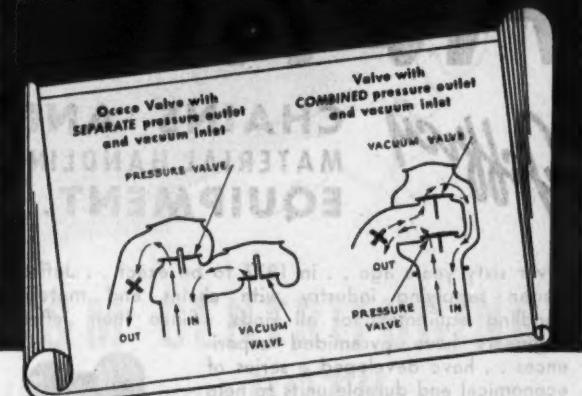
When inquiring specify CP9533 — see information request blank, pgs. 2-3

OCECO

VENT

VALVES

with their separate pressure and vacuum openings . . .



REDUCE THE HAZARD OF FLAMES FLASHING BACK INTO YOUR TANKS!

When vapor passing outward through a vent valve becomes ignited, the flash (if no flame arrester is used) can pass back into the tank if its velocity is greater than the velocity of the vapor passing outward through the valve. The only positive protection against flash-back is an adequate flame arrester . . . But if you don't use a flame arrester be sure to specify an Oceco Vent Valve. It's the next best thing.

As shown by the diagram above, a flash of vapors leaving the tank at point marked "X" in Oceco's separate outlet valve, tends to close the pressure valve without opening the vacuum valve. In the combined outlet valve, the flash has maximum opportunity to open the vacuum valve and find easy entrance into the tank.

Minimized flash-back is only one advantage of Oceco Vent Valves... Strong, fire resistant housings—positive venting at the desired pressure and vacuum—and large flow capacity are some of the others. You'll find complete details in our recently completed Catalog V-50 . . . Send for a copy today!

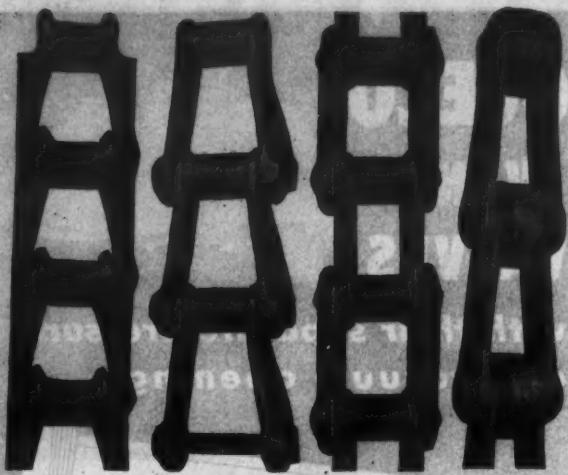
OCECO

Division of
THE JOHNSTON & JENNINGS COMPANY
868 Addison Road
Cleveland, Ohio
Engineering and Sales Representatives in the Principal Cities

FIRE PREVENTION AND VAPOR CONSERVATION EQUIPMENT
FOR VOLATILE LIQUID STORAGE TANKS

When inquiring specify CP9534 — see information request blank, pgs. 2-3

Page 87



Jeffrey

CHAINS AND MATERIAL HANDLING EQUIPMENT...

Over sixty years ago . . . in 1877 to be exact . . . Jeffrey began supplying industry with chains and material handling equipment of all kinds. Since then Jeffrey engineers have pyramided experiences . . . have developed a series of economical and durable units to help you do the job better.

Jeffrey has always endeavored to give you the best . . . makes it easy for you to select the right unit from our broad line. Write for literature.



Malleable iron or steel buck.ets of standard styles. A few sections of Jeffrey chains are shown above.



Jeffrey steel thimble roller drive chain. A large stock of chains, attachments and sprockets carried in stock.



Jeffrey Reliance 3-roll belt idler (right). A section of spiral flight is shown below.

The Jeffrey Manufacturing Company

(Established in 1877)

853-99 North Fourth Street

Columbus 16, Ohio

Baltimore 1
Birmingham 3
Boston 16
Buffalo 2
Charleston 33

Chicago 1
Cincinnati 2
Cleveland 13
Denver 2
Detroit 13

Houston 5
Huntington, W. Va. 19
Cleveland 13
Milwaukee 11
New York 7

Philadelphia 3
Pittsburgh 22
Hartford, Ky.
Milwaukee 11
Scranton, Pa. 3
St. Louis 3

Jeffrey Manufacturing Co., Ltd. of Canada, Head Office & Works: Montreal.
Branch Offices: Toronto, Calgary, Vancouver.



When inquiring specify CP9535 — see information request blank, pgs. 2-3

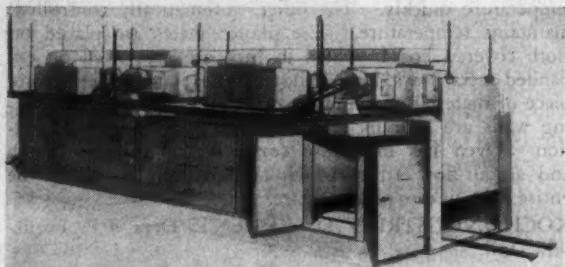
Page 88

PRODUCTION

Combination Batch-Tunnel Dryer

Single streamlined unit handles continuous large production or four batch lots at once

Uses. — For handling large production or small batches. **Features** — Separate controls maintain any desired condition of humidity and temperature in each of the compartments and all parts of the dryer are easily accessible for thorough cleaning.



DRYER . . . with automatic end doors and batch compartments

Description — Automatically operated doors at opposite ends permit its use as a tunnel dryer for continuous, large quantity production, while side doors opening on four distinct and separate compartments adapt it to use as a batch dryer. In tunnel drying the material passes through four separate zones, allowing the use of the proper drying cycle and the overhead doors separate each zone, except during the moving of the trucks. The air travels in

This Tight Closing STERLING CONTROL is a

Steam Saver!

Leakage of double-seated tank control valves, and the accompanying overheating and steam waste are well-known to all engineers.

The Sterling No. 117 single-seated pilot operated valve is the remedy for this "headache." It means TIGHT CLOSING — and tight closing is synonymous with steam saving.

Self-contained, thermostatically operated, the Sterling No. 117 is suitable for pressures up to 125 lbs. Regulates liquid temperatures within $1\frac{1}{2}$ ° F. plus or minus — for accurate control of water, oil and other liquids. Four sizes, 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ " and 2".

See your jobber for prices or write direct. Available now, without priorities.

STERLING, Inc.

Manufacturers of Temperature Controls for Liquid and Air—Vacuum and Condensation Pumps—Steam and Hot Water Specialties

When inquiring specify CP9536 — see information request blank, pgs. 2-3

They're Tough—



—because they have tough jobs to do!

Weatherhead flexible hose and hose assemblies are available in various types for automotive and aviation installations as fuel, oil, hydraulic and vacuum lines. Designed to withstand excessive vibration and varying pressures, these hose assemblies are dependable in all weather conditions. They come equipped with quick attachable fittings, are entirely leakproof and easy to assemble. No special tools required. Write for complete information.

Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries



Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO
Plant Locations: California, Illinoi, Indiana, Kansas, Michigan, Missouri, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia, Wisconsin

When inquiring specify CP9537 — see information request blank, pgs. 2-3

Speed-up DE-GREASING PROCESSING DIPPING-WAXING



★ Here's a battery of Anets Thermostatically Controlled units being used for de-greasing and processing of large and small metal parts. Set the snap-action thermostat to maintain just the exact temperature needed and the rest is easy. Thousands in use. Hundreds of applications. Write for Bulletin No. 172 today.

ANETSBERGER BROTHERS

3322 Elston Avenue
Chicago 18, Illinois

When inquiring specify CP9538 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

alternate directions, assuring drying on all trays. When used as a batch dryer, four different materials can be dried without any contamination.

J. O. ROSS ENG'G CO., Dept. CP, 350 Madison Ave., New York 17, N. Y.

When inquiring specify CP9539 — see information request blank, pgs. 2-3

Machine Opens Cartons, Deposits Bottles On Belt Conveyor

Handles bottles, containers up to 11 1/4 in. high; one man unloads 250 bottles a min.

Uses — For automatically unloading cases of bottles or containers.

Features — Handles bottles or containers up to 11 1/4 inches tall. Fully automatic in operation and requires only one operator to run up to speeds up to 250 bottles per minute.

Operation — In using this equipment it is necessary to specify that the glass manufacturer pack the empty bottles bottom up in the shipping carton. The receiving end of the machine (seen upper right in accompanying photograph) is provided with a v-shaped roller. This opens both outer flaps of the cartons simultaneously as they are placed on the machine. The flaps are forced into a special trough and held in such a position that the inner flaps are



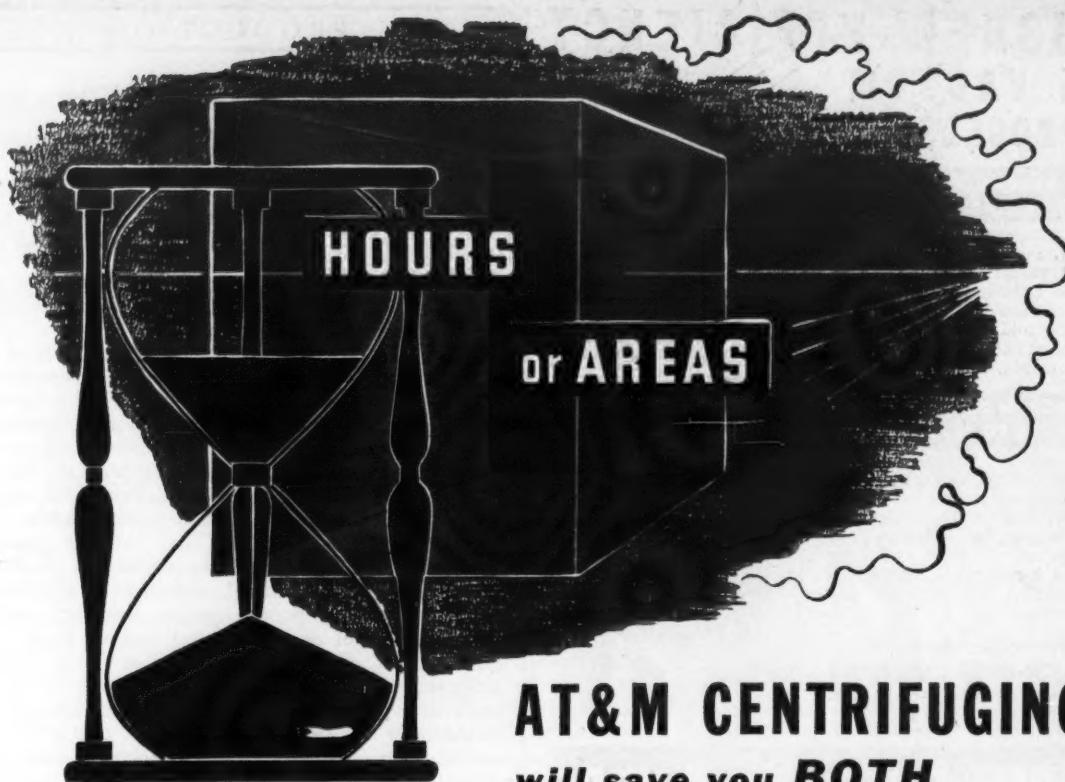
BOTTLE CASE UNLOADER IS ENTIRELY AUTOMATIC

allowed to drop down. From there they gradually separate, (A) the glass being carried to its next point of handling (B) and the cartons tumbled to an upright position (C) on a belt conveyor which leads to the casing end. The machine for handling bottles of a height of 11 1/4 inches is 14 feet long and 30 inches wide. Smaller container height reduces the necessary length of the machine. Information concerning this equipment as applied to individual requirements on request.

LOUIS L. KEELER, Dept. CP, 47 West Lansdowne, Pa.

When inquiring specify CP9540 — see information request blank, pgs. 2-3

For complete information regarding products described in this issue a handy request slip is provided between pages 2 and 3. Check the items that interest you, fill in name and address and send it to publishers. Information will come to you promptly.



AT&M CENTRIFUGING will save you BOTH

EXTRACTION:

AT&M Centrifugals Dry in 1/7th the Former Time

AT&M Centrifugals do faster drying than filters, squeeze rolls, vacuum or suction boxes, or drying ovens, because they employ higher forces to speed the operation. The liquid is thrown away from the solid (through holes in the whirling basket) with a force many times that of gravity . . . yet at a comparatively slight cost for power.

One customer, instead of purchasing more drying equipment, installed an AT&M centrifugal which performed a drying operation in 1 1/4 hours that required 8 hours with the dryers. And the investment cost in the AT&M centrifugal was only \$4000, compared to \$11,000 for the drying equipment.

CONSIDER CENTRIFUGING FOR

extraction . . . filtration . . . dehydration . . . precipitation . . . impregnation . . . coating

PRECIPITATION:

AT&M Centrifugal Saves Tank Room

Precipitating particle-sized substances, such as oxides from mother liquor or slimes from suspension, is a job an AT&M Centrifugal can do at a great saving in floor space. At the same time it speeds work (over filter or tank method) and produces a dryer cake which is easy to remove from the bottom of the basket.

For example, the slow speed with which lead oxide settled in a tank of acid liquors convinced the manufacturer to switch to centrifuging. A single AT&M machine, occupying a fraction of the space formerly devoted to the tank, precipitates the oxide and decants the acid in one swift operation.

CONSIDER AT&M FOR

capable engineering service (as war needs permit) — no charge for study and recommendation. Strict confidence preserved.

IN ALL MACHINABLE METALS AND COATINGS

**SAVE TIME
and SPACE with**

A.T. and M. CENTRIFUGING

AMERICAN TOOL & MACHINE COMPANY

1425 Hyde Park Ave., Boston, Mass.
303 Church Street, New York

When inquiring specify CP9541 . . . see information request blank, pgs. 2-3

HIGHER EFFICIENCY for VACUUM PROCESSES

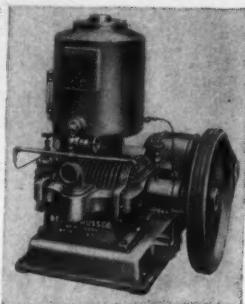
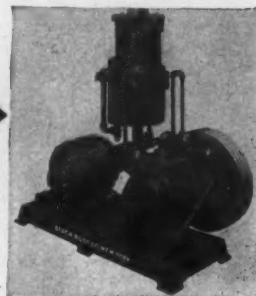
VACUUM TO 5 M.M.
6 TO 375 C.F.M.

Advantages: Simple, smooth, quiet, positive rotary action; tight vacuum seal and automatic lubricating system assure top mechanical efficiency and vacuum without frequent adjustments or replacements.

VACUUM TO 10 MICRONS
15 TO 750 C.F.M.

Advantages: Patented rotary piston design, perfect vacuum sealing, automatic water oil separation and lubrication, elimination of valve adjustments of oil flow and slow pump speed effect high speed evacuation on wet or dry operations.

Write for Bulletins
BEACH-RUSS COMPANY
40 Church St., New York 7, N. Y.

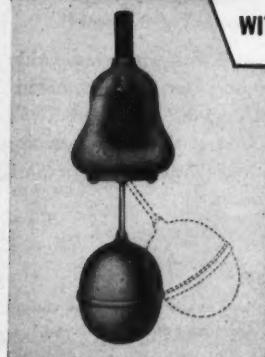


BEACH-RUSS High Vacuum PUMPS

When inquiring specify CP9542 — see information request blank, pgs. 2-3

Halt SPACE AND MATERIAL Waste

WITH THE TELLEVEL

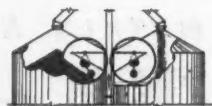


Now is the time to call a halt to waste of vital space and material.

It is easily done with the Tel-level, an inexpensive device that allows automatic flow control in bins, hoppers, tanks, etc.

A rising or falling level of material tips the hanging float-ball to make or break the electric current . . . as the need may be. The Tellevel is used to control the storage of bulk materials or liquids.

Investigate the Tellevel for possible use in your plant. Write for descriptive Bulletin No. 440.



STEPHENS-ADAMSON MFG. CO.

Tellevel—Bin Level
Controls Car Loaders
ChangeMaster Variable Speed Reducers SealMaster Ball Bearings
Car Pullers Winches
Saco Speed Reducers

11 RIDGEWAY AVE., AURORA, ILLINOIS

When inquiring specify CP9543 — see information request blank, pgs. 2-3

Page 90

PRODUCTION

Annealing and Decorating Lehrs Feature Flexibility and Economy

Controlled recirculation of heating gases in critical annealing zones assures uniformity; radiant tubes assure constant oxidizing atmosphere

Uses — For highly efficient annealing of glass within critical temperature ranges; radiant tube lehrs for decorating under constant oxidizing atmosphere.

Features — Principle of convection heating utilized. Gas or fuel used as heating medium is burned under automatic proportioning control in heating zone. Fan exhausts flue gases from tunnel and delivers them over burners and under conveyor. The gases then flow around the wave producing equalization of temperature in all parts of the glass thus treated. Practically uniform temperature maintained in any cross section. This controlled recirculation of the heating gases in critical annealing zones is the distinctive feature. It assures uniformity of anneal, regardless of belt width or tunnel height. It permits greater flexibility and fully automatic control of heating and cooling zones. It includes in its advantages, simplicity of design and fully automatic belt take-up. Compact, it occupies less floor space and is easily portable, a convenience when plant rearrangement is necessary. There is a slight pressure carried in these lehrs due to the gases recirculating under control in the lehr tunnel. This means that the different zones are fixed and are not as subject to outside drafts or to other causes changing the location of the temperature zones. Lehrs operate at lower temperatures — lehr temperature reduced to practically that of ware temperature.

Description — Each lehr is built to suit the particular specifications required. The units are ordinarily constructed in six foot long sections. Sections are bolted together and lined in customer's plant. It is therefore possible and practical to add sections or take out sections as desired with comparative ease. The illustration on the COVER shows an installation of a three-zone controlled annealing lehr. These continuous annealing lehrs feature very low fuel consumption for several reasons. One, the fuel is completely burned under ideal conditions and there is no muffle through which it is necessary to drive the heat. The lehr can be shut-down when not in use for any appreciable length of time and can be brought back to temperature in five-to-six hours. The lehrs are well constructed with heavy steel casing and all mechanical parts



RADIANT TUBE HEATED DECORATING LEHR FOR
ALL TYPES OF WARE

The New
BEACON
by Wakefield

FOR OFFICE WORK

Designed for high quality fluorescent lighting at lower cost, the BEACON is a "honey" for lighting essential offices. Provides smooth, shadowless light to help handle paper work faster and reduce eyestrain. Maintenance is especially easy with no horizontal surfaces on which dust can collect. Hinged louvers make lamp replacement simple. Ask your Graybar house for details or write us.

THE F. W. **Wakefield** BRASS COMPANY
RED SPOT LIGHTING FOR WAR PRODUCTION . . . FOR PEACETIME FUTURE
VERMILION, OHIO

When inquiring specify CP9544 — see information request blank, pgs. 2-3



SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
113 CENTRAL STREET • SOMERVILLE 45, MASS.

When inquiring specify CP9545 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

are designed to resist severe operating conditions. Friction of moving parts reduced so that one half horsepower motor can operate conveyor on large lehrs. Combustion equipment is centralized and with automatic proportioning control the air gas ratio of firing rates is predetermined. The illustration shown here is of a radiant tube heated decorating lehr for all types of wares.

Radiant Tube Heating Application to Lehrs — Operation shows substantial fuel savings and gives advantages of zone control and great flexibility of operations. Uniform, constant oxidizing atmosphere provided within lehr tunnel at all times, a requisite for proper decorating. Radiant tube firing elements are extremely flexible and can be used with any kind of gaseous fuels or oils. A highly informative presentation of the variety of equipment produced by this company is given in a profusely illustrated book. In addition to equipment described here it gives interesting facts concerning direct fired decorating lehrs, special process furnaces, convexing and bending furnaces, batch type lehrs and ovens and recuperative tanks. The multi-flame firing system used in connection with recuperators for day tanks provides greater speed for melting additional savings in operating costs. Copy of the booklet "Heat for the Glass Industry" and detailed information concerning individual requirements on request.

SURFACE COMBUSTION, DEPT. CP, Toledo 1, Ohio.

When inquiring specify CP9546 — see information request blank, pgs. 2-3

Machine Embosses Tags From Coil Stock or Tag Blanks — 24 Gauge

Produces 16 characters at a time from 2/16 to 1/2 inch; positioning of bars viewed through window on top of machine

Uses — For quickly embossing metal tags for every identification purpose. The machine is designed to meet the need for frequent changes in set-up and will accommodate either coiled sheet metal strips, which are cut into tags of any desired size, or tags already cut to size.

Operation — Operation is simple. Projecting levers on the top of the machine are used to move steel bars forward or backward into position for the embossing operation as may be observed in view window provided in top of machine. The material is placed into a side slot, and the complete set-up is quickly embossed by a light kick of the foot treadle.

Description — Manufactured to order, the machine can be supplied to emboss as many as 16 characters at a time, from $\frac{1}{16}$ to $\frac{1}{2}$ inch in size, with each embossing bar limited to a maximum of 13 characters. Maximum tag thickness recommended for use with the machine is 24 gauge, but under certain conditions, heavier materials may be satisfactorily embossed. The machine will emboss one line of characters only. The machine can be furnished in a floor model or in a bench model. Due to the variance in coil stock, stock reels are not included with the machine, but can be installed if desired. Metal tag blanks are supplied in size, gauge and quantity desired. Coil stock can be supplied in various widths, gauges and coil lengths. Leaflet Number 400 gives full information on the "Quick-Set" machine and is sent on request.

J. H. MATTHEWS & CO., Dept. CP, 3942 Forbes St., Pittsburgh, Pa.

When inquiring specify CP9547 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

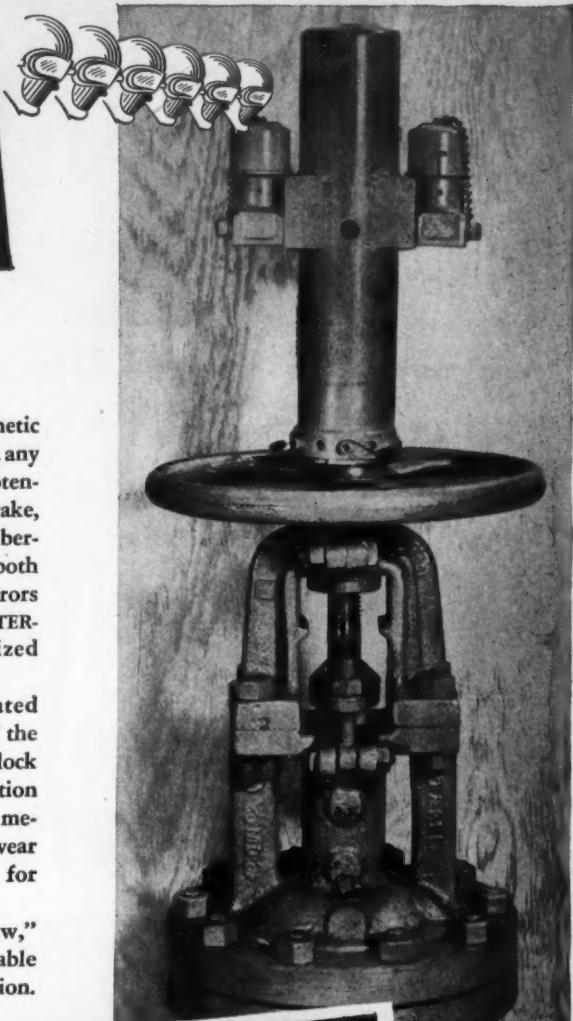
MECHANICAL GUARDIANS FOR CHEMICAL PIPE-LINES



In chemical industries, synthetic rubber plants, oil refineries... any plant, piping precious or potentially hazardous fluids... a mistake, whether unintentional or deliberate, in adjusting a chemical pipe-line valve can prove both dangerous and costly. But prevention of these human errors is easy and infallible with BENDIX-CORY* SAFETY INTERLOCKS... the locks that say "No!" to unauthorized handling of your valves.

The BENDIX-CORY SAFETY INTERLOCK illustrated gives absolute control over the opening and closing of the valve to which it is attached... and, by use of an interlock key, can also control the position of this valve in relation to any number of other valves. The unit is wholly mechanical, and fully adjustable to compensate for valve wear — one of a number of interlocks specially designed for valve protection.

As safety men of the Bendix "Invisible Crew," BENDIX-CORY SAFETY INTERLOCKS are dependable guardians for your pipe-lines. Write for full information.



CHECK THESE FEATURES

Interlocks stem valves 2" to 8". Other interlocks for globe, lead and porcelain valves.

Absolute control of valve opening and closing under all conditions.

Positions valve in relation to other valves.

Ample strength characteristics.

Indoor or outdoor installation without removing valve from service.

Fully mechanical. No electric circuit.

Position indicator (not shown) shows valve open or closed.

Adjustable compensation for valve wear.

*TRADE MARK OF BENDIX AVIATION CORPORATION

Products of this division are members of "The Invisible Crew" — precision equipment which 30 Bendix plants from coast to coast are speedily to our fighting crews on world battle fronts.

THE INVISIBLE CREW

Precision

Equipment

Bendix
Aviation Corporation

BENDIX MARINE DIVISION • One Hanson Place, Brooklyn, New York

When inquiring specify CP9548 . . . see information request blank, pgs. 2-3

Page 91

JESSOP

STEELS of the FUTURE

SOLID STAINLESS

... for corrosion resistance
heat resistance
high strength
lasting beauty

STAINLESS-CLAD*

... for Stainless Quality
Stainless Appearance
Lower Cost

★ There are many applications where only a solid stainless metal will do the job and for these we recommend Jessop Solid Stainless Steels, of the required analysis to meet specific operating conditions. Where stainless protection is needed on one surface only, use Jessop Stainless-Clad Steel, which will give the performance of solid stainless on the clad side and at the same time save in material and fabrication cost. As producers of both solid stainless and stainless-clad steels we can give impartial advice regarding the type best suited for your purpose. Delivery to meet your requirements.

*U. S. Patent Nos. 1,897,538 and 2,044,742

JESSOP STEEL CO.

HEAD OFFICE AND WORKS

WASHINGTON . PENNA.



Established 1901

PRODUCTION

Iron Cement Repairs Broken or Defective Castings and Piping

Powder easily mixed with water and applied with putty knife; hardens quickly, no heat required

Uses — For repairing broken, cracked or defective metal castings, piping; making joints, seams, loose parts secure, stopping leaks in boilers, furnaces, fire-pots and other metal equipment. This product can be used on iron, steel, brass and other metals and also on wood.

Features — This cement, which is made in powder form is quickly mixed with water and easily applied with putty knife or similar tool and may be hammered into cracked or broken parts. It rapidly hardens.

Description — Upon metallizing after application this cement has the same expansion and contraction properties as iron itself, providing a permanently tight joint regardless of temperature changes. Available without priorities in 1 lb., 5 lb., cans, 25 and 100 lb. kegs. Additional information on "Fix-iron" cement sent on request.

SOLO WORKS, Dept. CP, Loveland, Ohio.

When inquiring specify CP9550 — see information request blank, pgs. 2-3

Coated Aluminum-Bronze Electrode

Shielded arc electrode can also be used as filler rod in carbon arc welding

Uses — In the welding of most bronzes, malleable or cast iron or steel; also welding Manganese bronze conforming to Federal Specifications QQ-B-726b, or Navy

KINNEY Vacuum Pumps

HIGH VOLUMETRIC EFFICIENCY . . . LOW ABSOLUTE PRESSURES



The operating mechanism of the KINNEY Vacuum Pump is simple and requires a minimum of maintenance. The pump has continuous lubrication and is sealed with oil to produce a "no clearance" pump capable of producing low absolute pressures with high volumetric efficiency. Oil film reduces chemical corrosion.

TIME TESTED — Hundreds of KINNEY Vacuum Pumps have records of many year's reliable service.

Bulletin 18 on request

KINNEY MANUFACTURING CO.

3573 Washington St., Boston 30, Mass.

New York Chicago Philadelphia Los Angeles San Francisco
We also manufacture Liquid Pumps, plain and steam-jacketed, Clutches and Bituminous Distributors.

When inquiring specify CP9551 — see information request blank, pgs. 2-3

SLY DUST CONTROL

MEANS

"A GOOD PLACE TO WORK" . . .



The double faced grinder (top view) is fully enclosed to collect grindings. Dust exhaust pipe leads to filter on roof.

Lower view shows the Sly Dust Filter with cyclone collector (for collection of coarse material). The Filter gets the really fine dust.

Sly Dust Control Systems mean clean plants—increased production, better operating conditions and better morale. There are practically no limitations to their application. More than 5,000 installations collecting 111 kinds of dust.

THE W. W. SLY MFG. CO.
4748 Train Ave. • Cleveland 2, Ohio



When inquiring specify CP9552 — see information request blank, pgs. 2-3

Resists CHEMICAL Corrosion!



SARAN * PIPE and FITTINGS

An outstanding plastic pipe for the laboratory, Saran is resistant to most acids and alkalies, to heat up to 175°. It weighs only 1/4 as much as iron pipe, yet is tough and durable.

One of the most striking features of Saran pipe is its ease of handling, being joined by a quick welding process or by threading.

It will be worth your while to get the whole story, now, of Saran and its benefits to the chemical laboratory. Write us today for the Saran Pipe Booklet.

*Licenses of the Dow Chemical Company



Processors of Synthetic
Rubber and Plastics
Sheets • Extrusions
Molded Parts

Synthetic
PRODUCTS

DIVISION WESTERN FELT WORKS
Largest Independent Manufacturers and Cutters of Felt
4035-4117 Ogden Ave., Chicago 23, Ill. • Branch Offices in All Principal Cities

When inquiring specify CP9553 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

When inquiring specify CP9549 — see information request blank, pgs. 2-3

PRODUCTION

specifications 49-B-3e for marine propellers and other parts. It can also be used for welding dissimilar metals, such as cast iron to brass, steel to malleable iron, or the joining of any two metals which are weldable with aluminum bronze.

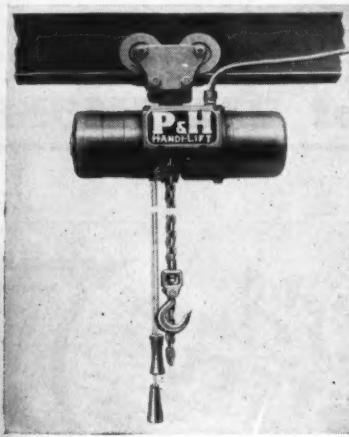
Description — Coated aluminum bronze electrode (Airco No. 100) for production of welding deposits of great strength and hot ductility with desirable resistance to corrosion. Sizes from 1.8 to $\frac{3}{16}$ in 14 in. lengths and $\frac{1}{4}$ in. in 18 in. lengths. $\frac{5}{16}$ to $\frac{1}{2}$ ins. in 18 in. length on special order.

AIR REDUCTION SALES CO., Dept. CP, Lincoln Bldg., 60 E. 42nd St., New York, N. Y.

When inquiring specify CP9554 — see information request blank, pgs. 2-3

Hoist Suspends Crosswise Or Parallel To The Beam

Fully enclosed unit rated at 500 pounds with high reserve capacity



500 POUND CHAIN HOIST

greater flexibility. Fully enclosed construction for utmost protection.

Description — Rated at 500 pounds, genuine hoist motor supplies high reserve. The chain is proof-tested for 1800 pounds. Operation by pull cord actuating a simple lever toggle arrangement which leaves one hand free to guide the load. The chain wheel which is forged of high carbon steel and heat treated is splined to the drive gear. Overtravel of hook at both upper and lower limits is prevented by a zinc die cast safety limit stop which also actuates control for raising and lowering loads. Dual braking is by large spring set electric motor brake which automatically releases when hoist is operated and sets instantly with shut-off current. Lowering control is by dynamic means supplemented by the spring set brake which holds load should current fail. Simplified, planetary gear drive. Motor, high starting torque, reversible type. Loading is made easy by a wide mouth hook of forged steel equipped with ball bearings for free swivel. By removing hook, yoke can be used as a clevis. Operates on 3 phase, 60 cycle, 220 or 440 volts.

HARNISHFEGER CORP., (Hoist Div.) Milwaukee 14, Wis.

When inquiring specify CP9555 — see information request blank, pgs. 2-3

MAY - JUNE, 1944



THE SURE WAY TO SOLVE YOUR LABORATORY HEATING PROBLEMS

THERE is a Lindberg laboratory furnace and hot plate in the type and size you need to solve your heating problems.

The combustion tube furnace provides temperatures up to 2500°F., maximum for carbon and sulphur determinations using volumetric methods and for carbon determinations using gravimetric methods of analyses.

Chemical analyses and metallurgical tests, as well as numerous other laboratory duties are efficiently handled by the box type furnace. Built in two appropriate laboratory sizes, this self contained furnace is equipped with a one piece rod type element which can be removed and replaced in a few, short minutes. A removable refractory type hearth plate is also furnished. Temperatures up to 2000°F. maximum are accurately controlled by means of the Lindberg input control. An indicating pyrometer indicates temperatures in both Fahrenheit and Centigrade.

Three convenient laboratory sizes present a hot plate selection to suit individual requirements. Tops

are made of a special distortion resistant cast metal. Temperatures are accurately obtained and controlled with the Lindberg input control.

Latest engineering principles and rugged long life construction are incorporated into all Lindberg laboratory equipment. Modern functional design combines neat appearance with compactness. Housings completely enclose unsightly auxiliary electrical equipment and wires while the streamlined designs contribute to the high standard of cleanliness typical of the modern laboratory.

Your laboratory equipment dealer will be pleased to give you full particulars on Lindberg's new line of furnaces and hot plates. Call him today.

LINDBERG ENGINEERING COMPANY
2450 WEST HUBBARD STREET • CHICAGO 12, ILLINOIS

LINDBERG

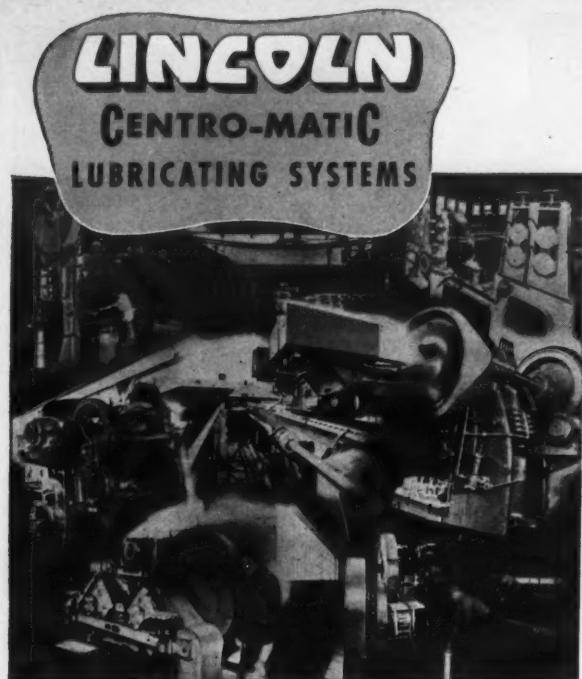
WELL KNOWN THROUGHOUT THE WORLD AS
LEADERS IN DEVELOPING AND MANUFACTURING
INDUSTRIAL HEAT TREATING EQUIPMENT



SOLD EXCLUSIVELY THROUGH LABORATORY EQUIPMENT DEALERS

When inquiring specify CP9556 . . . see information request blank, pgs. 2-3

Page 93



THE Modern WAY TO LUBRICATE CHEMICAL PLANT MACHINERY

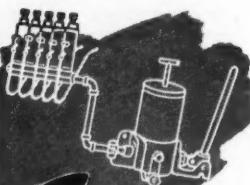
The Lincoln modern method of centralized lubrication, makes it possible for all bearings on one machine, or a series of machines, to be lubricated from a central source without stopping the machines.

The Lincoln Centro-Matic System consists of a number of Centro-Matic Injectors—one for each bearing—and a hand-operated, or a power-operated Centro-Matic Lubricant Pump. The system is easy to install and will help increase your plant efficiency, not only today, but for years to come.

SPECIAL ENGINEERING SERVICE

Lincoln Engineering Company maintains a staff of specialized engineers who are prepared to assist you in solving your industrial lubrication problems without obligation to you. We invite you to avail yourself of this service.

144-7A



MAN HOURS
MACHINE HOURS
BEARINGS • POWER
and reduce accidents

Write for Descriptive Literature Today

LINCOLN

Pioneer Builders of Engineered Lubricating Equipment



When inquiring specify CP9557 — see information request blank, pgs. 2-3

Page 94

PRODUCTION

Strainer For Easy Handling Full Capacity of Multi-Nozzle Line

Extremely large open screen area; line strainer for single nozzle also available

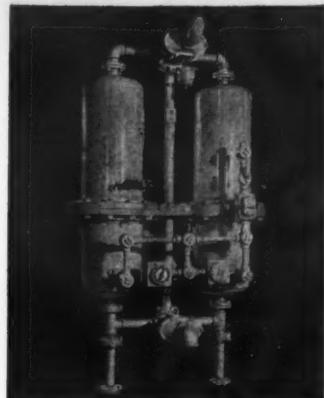
Uses — Spraying system strainers.

Features — Offer unusual advantages for installations involving the use of several nozzles on a single feed line. Design of the strainer results in an extremely large open screen area in relation to the pipe area of the line, so that it may handle the full capacity of a line supplying several nozzles. Permits free flow of liquid and does not require such frequent cleaning as ordinarily necessary. A blow out plug makes it easy to flush and clean without removal from the line.

Description — The standard type of this TW model is supplied with a cast iron body and brass wire screen; all brass and all stainless steel construction is also available. A choice of screen mesh is offered so that performance of the strainer may be directly related to the size of nozzle orifice. Another strainer Type Q is an effective strainer for single nozzle installation. Maximum capacity of this strainer is one gallon of water per minute, or brine, oil and liquids of similar viscosity. The screen of this strainer is removable for easy cleaning and type also is offered in several materials.

SPRAYING SYSTEMS CO., Dept. CP, 4037 W. Lake St., Chicago 24, Ill.

When inquiring specify CP9558 — see information request blank, pgs. 2-3



COMPRESSED AIR DRIED TO BELOW ZERO DEWPOINTS

- For instrument lines
- For process work
- For inspection and assembly departments



Kemp KSG Silica-Gel Adsorptive Dryers are the standard in modern industrial applications. For Bulletin T25C write The C. M. Kemp Mfg. Co., 405 East Oliver Street, Baltimore, Maryland.

Use pick and
Feat and
Des
kil
geth
cor
wide
and
caste
sizes
ACR
4892
Av
of p
Uses
taper
ing, s
to cut
inside
Descri
handle
handle

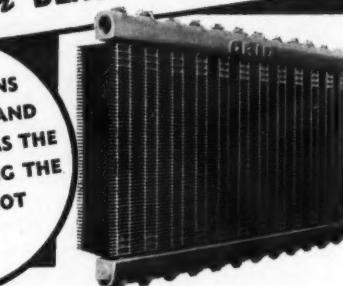
KEMP of BALTIMORE

When inquiring specify CP9560 — see information request blank, pgs. 2-3

DO AWAY WITH MAINTENANCE COSTS on BLAST SECTIONS—

INSTALL
BLAST SECTIONS
THAT WILL STAND
WEAR AS LONG AS THE
PIPES FURNISHING THE
STEAM OR HOT
WATER
TO IT

ONE PIECE CONSTRUCTION— "FIN" SECTION



GRID Blast Sections have the same high efficiency and lasting qualities as GRID unit Heaters made of high test cast iron. No tortuous air passages, GRID Blast Sections are constructed to permit freedom of expansion with complete absence of ruptures, strains and warping. Compact, they occupy less space than other types of cast iron blast coils of equal capacity. Atmospheric conditions, such as dust, fumes, lint, etc., cannot retard their operation. Guaranteed for steam pressures up to 250 lbs. Ideal for installation where outside air is brought into the building.

GRID Condenser "fin" sections are made in one piece of high test cast iron. No soldered, brazed, welded, or expanded connections — and nothing to become loose or develop breakdowns or heating failures. Details upon request.

D. J. MURRAY
MANUFACTURING CO.
WAUSAU, WISCONSIN

Offices in Principal Cities



When inquiring specify CP9559 — see information request blank, pgs. 2-3



When inquiring specify CP9561 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

Industrial Truck For Parts, Materials

Kiln dried oak construction; 5 in. heavy duty casters



UTILITY TRUCK

Uses — Industrial truck for utility use and pick-up service in handling packages, parts and materials.

Features — Easy handling for rapid action and utmost maneuverability.

Description — Built of No. 1 clear stock kiln dried one inch thick oak joined together with screw and bolt fastenings, each corner re-inforced with a two inch supporting post. Standard units are 28 inches wide, 42 inches long and 34 inches high and are equipped with 5 inch heavy duty casters, 2 swivel and 2 stationary. Other sizes made to order.

ACRO TOOL & DIE WORKS, Dept. CP, 4892 N. Clark St., Chicago 40, Ill.

When inquiring specify CP9562
— see information request blank, pgs. 2-3

Long Taper Reamer

Avoids flaring, splitting, reducing wall of pipe; furnished with ratchet handle

Uses — This pipe reamer with extra long taper design is said not only to avoid flaring, splitting or reducing wall of pipe but to cut burr very cleanly and easily from the inside of pipe conduit.

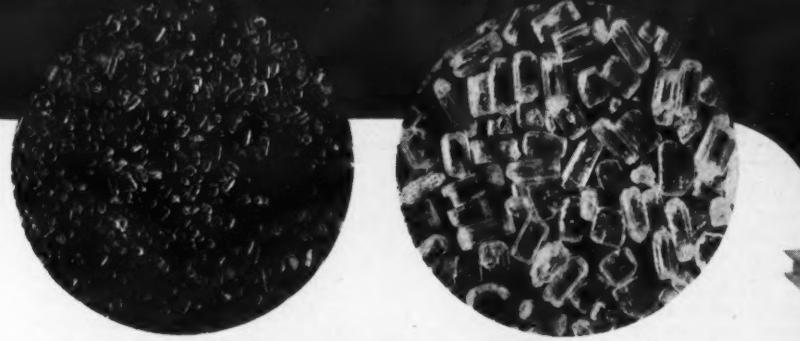
Description — It is furnished with ratchet handle or can be used with the ratchet handle of maker's. Number OOR Threader.

RIDGE TOOL CO., Dept. CP, Elyria, Ohio.

When inquiring specify CP9563
— see information request blank, pgs. 2-3

For more information on product at right, specify CP 9564
— see information request blank between pages 2-3.

Process Adapted Agitation



Crystal size is today being accurately controlled by process-adapted agitation. Larger or smaller crystals are being obtained, as desired.

HERE'S AN EXAMPLE:

A company which makes ammonium sulphate found that it could get a higher price for a larger crystal size than it was producing. In this company's process, ammonia gas is released through sub-surface spargers and then contacted with weak sulphuric acid which causes the crystals to form. Today by process-adapted agitation, the crystals are repeatedly carried in suspension through the gas zone and grow, instead of fresh nuclei being constantly formed. The result is a premium product, far easier to handle in subsequent operations. Greater overall efficiency is also obtained.

Another type of crystal control is employed in the case of precipitation. If the precipitant is completely and instantaneously dispersed, and the concentration rigorously controlled, an extremely fine crystal size can be produced. In this process lesser degrees of agitation produce larger crystals.

Agitation is also standard in evaporator crystallizers. In this case it prevents crystal adhesion to side walls and recirculates crystals through desired concentration zones where the liquor is contacted by fresh feed liquor or by returned condensed vapors.

BUT—WATCH THESE DETAILS!

When agitation is adapted to the perform-

ance of such specific functions as controlling crystal size, many mechanical engineering details must be worked out and handled with scrupulous care.

First—Do not use a vessel heated or cooled with coils, if you can possibly avoid doing so. A jacketed vessel is far superior. A cone-bottom tank will, naturally, be used to permit the complete removal of contents. If crystals tend to adhere to bottom surfaces, use a 60° instead of a 45° cone.

If the mixer entrance is below the liquid level, careful attention to packing is required, and a suitable sealing and flushing liquid should be used to prevent formation of crystals in the packing itself. Clear mother-liquor from the filter press or centrifugal can be used for this purpose to avoid dilution or contamination.

THE BASIS OF OUR RECOMMENDATIONS

Twenty-three years of experience has resulted in an organization, research facilities and skill which qualify Mixing Equipment Company as an authority in the field of agitation.

Mixing Equipment Company offers its services in the solution of any problem involving controlled recirculation of liquids to produce physical and chemical changes, as included in the following table.

What Size and Type do you need?

There is a process adapted agitator for every size and shape of tank and every operation: for batch or continuous operation. Because Mixing Equipment Co. products include all types of fluid agitators, you can obtain from them an impartial recommendation for the most economical solution of any problem involving fluid agitation.

Blending Miscible Liquids	Mixing Immiscible Liquids	Crystal Size Control	Gas Absorption & Dispersion	Suspension of Solids	Heat Transfer
Simple mixing of soluble liquids as in reducing concentration.	Washing of Liquids Extraction Contacting Caustic Treating Emulsions	Precipitation Evaporation Systems	Hydrogenation Aeration Gas Scrubbing Chlorination Gas Washing	Slurries Slaking Lime Suspension of: filter aid, activated carbon, Filters Earth, Crystals while dissolving.	Stills Evaporators Reactor Vessels Heating Cooling

LIGHTNIN AND MIXCO AGITATORS

LIGHTNIN
TRADE MARK REG. U. S. PAT. OFF
MIXCO

MIXING EQUIPMENT CO., INC.

1085 GARSON AVENUE, ROCHESTER 9, N. Y.

MIXING EQUIPMENT CO., INC.
1085 Garson Avenue, Rochester 9, N. Y.

Please send me the literature checked:

- B-76—Side Entering Mixers
- B-78—Top-Entering Mixers
- B-75—Portable Mixers
(Electric and Air Driven)
- B-77—Laboratory Mixers
- Mi-11—Operating Data Sheet

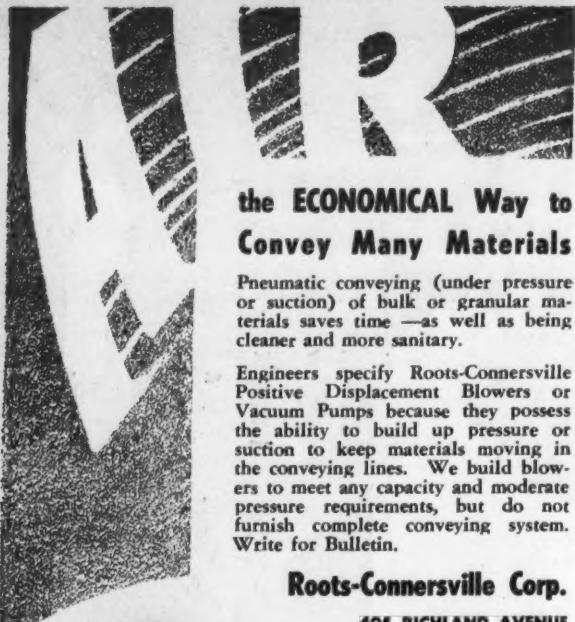
Name.....

Title.....

Company.....

Address.....





the ECONOMICAL Way to Convey Many Materials

Pneumatic conveying (under pressure or suction) of bulk or granular materials saves time—as well as being cleaner and more sanitary.

Engineers specify Roots-Connersville Positive Displacement Blowers or Vacuum Pumps because they possess the ability to build up pressure or suction to keep materials moving in the conveying lines. We build blowers to meet any capacity and moderate pressure requirements, but do not furnish complete conveying system. Write for Bulletin.

Roots-Connersville Corp.

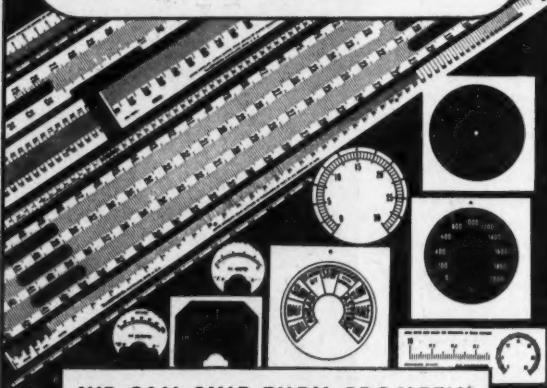
405 RICHLAND AVENUE
CONNERSVILLE, IND.



Rotary Positive
BLOWERS

When inquiring specify CP9565 — see information request blank, pgs. 2-3

NEED SCALES?



WE CAN SHIP THEM PROMPTLY

1. In any quantity—Maymer Syl-O-Ette scales are economical in small, as well as large quantities.
2. In unusual sizes—one order recently called for 300 scales 1/4" wide by 84" long; another for scales 32" wide by 66" long.

Whatever your requirements, write us. The uniform accuracy of Maymer scales, reasonable price, and speed of shipment will please you.

MAYMER
CORPORATION

10896 BEREAL ROAD
CLEVELAND 2, OHIO

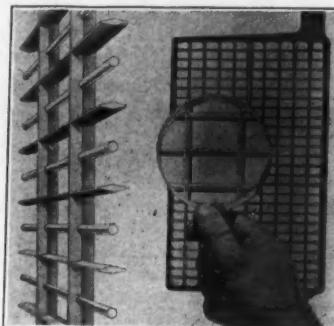
When inquiring specify CP9566 — see information request blank, pgs. 2-3

Page 96

PRODUCTION

Positive Grid Design Prevents Active Materials from Shifting

Vertical members, alternate horizontal members are wedge shaped; other horizontal bars are round; grid has great resistance for longer battery life



CROSS SECTION OF GRID

material from shifting in any direction, the construction of the positive grid makes it a distinct development. The vertical members as well as alternate horizontal members, are wedged shape and extend from surface to surface. The other horizontal bar which alternates with the wedge bar is round and imbedded within the active material thus further locking the material within the box. This gives grid great resistance to stress and strain and holds the material securely, adding to battery life.

Description — Illustration shows side and front elevation of grid. All vertical members are heavily reinforced at vulnerable points. Note how some increase in cross section as they near the top. This increase in size is to assure adequate conductivity to prevent unduly high voltage losses on heavy discharges. In the magnified section of the grid, the box like structure of the grid which forms individual pockets for active material is accentuated. It can be seen that it is impossible for material to move up and down or to either side—a lock is formed in all four directions. The round central member of each box acts as a reinforcing member in the grid and as an indestructible conductor. (explanation of this member's conducting qualities will be given). Inside elevation you see exceptionally heavy cross section of horizontal member and the wedge shape formed on each surface exposed to active material. Although not shown in illustration, this wedge is also cast into the vertical members. The wedge shape of every bar forming each complex box serves to further secure active materials and prevents any tendency of the whole mass to move within any box. The round central member previously referred to will be observed to be smaller in cross-section than the wedge shaped bars which form the surrounding box. This design is an important factor in grid life. A positive grid is subject peroxidization (chemical conversion of lead to lead peroxide) which in course of time weakens structure. However, before point of failure arrives, the attack of peroxidization impairs grid's mechanical holding power and current carrying capacities. To retard this action, the positive box grid design with round member is used. Because it is smaller in cross-section, than the surrounding vertical or horizontal wedge shaped bars, the round central member is buried beneath the surface of the active material and is not subject to peroxidization as are other exposed parts of the grid frame. Batteries are made in sizes to meet all

Uses — For all types of electrical industrial trucks and tractors.

Features — The particular adaptability of this battery to industrial truck and tractor propulsion, the manufacturer explains, is based on its ability to retain the active material within the grid framework. Forming a box which prevents active material from shifting in any direction, the construction of the positive grid makes it a distinct development.



Prevent Accidents

ASBESTOS Oil and Grease Absorber

Every time an American workman is injured as the result of slipping or falling on an oil or grease soaked floor, Hitler and Hiro Hito have real cause to celebrate. Yet these costly accidents need not happen. You can help prevent them with

Carey
ASBESTO-SORB

ABESTO-SORB is
fire-safe . . . Rated
'Class 1, Non-
Combustible' by
Underwriters' Lab-
oratories, Inc.



This inexpensive, super efficient compound absorbs oil and grease—provides a non-skid, non-slip floor surface that's safe. Write today for details and a sample of ASBESTOS-SORB.

Address Dept. 90

THE PHILIP CAREY MANUFACTURING COMPANY • Lockland Cincinnati, Ohio
Established 1873 • 1885 • 1895 • 1905 • 1915 • 1925 • 1935 • 1945

When inquiring specify CP9567 — see information request blank, pgs. 2-3



Insoluble in Water—Oil—Steam—Gasoline—Freon
—Ammonia—and many other liquids and gases.
Makes a permanent seal.

Remains plastic; does not harden with age. Joints unaffected by vibration or temperature changes; easily broken after years of service.

Smooth; easy to apply; readily fills all clearances. Non-settling. Packed 1 and 7 lbs., ready for use.

Send for free test sample (mention service intended) and see how this multi-purpose, permanent joint compound can reduce maintenance in your plant or product.



CRANE PACKING COMPANY

1821 CUYLER AVE. • CHICAGO 11, ILL.

CRANE PACKING CO. • 100 W. Wacker Drive • Chicago 2, Ill.

CRANE PACKING CO. • 100 W. Wacker Drive • Chicago 2, Ill.

When inquiring specify CP9568 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

PRODUCTION

industrial truck equipment needs and all other types of battery requirements. Bulletin Number 100 gives complete details of the "Kathanode" positive grid and specifications of batteries for industrial trucks. Sent on request.

GOULD STORAGE BATTERY CO., Dept. CP, 35 Neoga St., Depew, N. Y.

When inquiring specify CP9569 — see information request blank, pgs. 2-3

Jacks in Sizes from 33 — 100 Tons

Pocket-size 60 page catalog and manual on lever, screw and hydraulic jacks presents a selection of an unusually complete line in sizes of from 3 to 100 tons capacity (and approved under government Limitation Order L-322). Illustrations and drawings show applications and give directions on use and maintenance. The various jacks are conveniently cross indexed by name and by number.

TEMPLETON, KENLY & CO., Dept. CP, 1020 So. Central Ave.,

When inquiring specify CP9570 — see information request blank, pgs. 2-3

Portable Wax Heating Tanks For Dipping And Spraying Operations

First model provides for both services, other has capacity to heat 24 lbs. wax in 50 min.



WAX DIP TANK WITH 2 COMPARTMENTS

Uses — Portable electrically heated units for use in wax melting and dipping operations.

Description — The first of these models is engineered to meet the needs of those who are wax-dipping and in addition require facilities for heating wax for spray lines. It has two dip compartments in the one tank; first may be used for melting wax for spraying, draw-off cock and outlet for spray provided. Thermometers in each compartment for temperature control 100-500° F. The other model is a larger adaptation of the maker's portable, electrically heated junior model for protective coating work. It provides larger dipping facilities, a dipping space of 25 x 25 x 9 3/4 inches. It will safely heat and melt up to 24 lbs. of solid wax in fifty minutes without discoloration or scorching. It has built-in thermometers and thermostats. Both models are mounted on casters and when needed on any 100 or 220 volt line, skid mounted units are available. Bulletin 268 giving complete information on all this equipment on request.

AEROIL BURNER CO., INC., Dept. CP, Park Ave., & 57th St., West New York, N. J.

When inquiring specify CP9571 — see information request blank, pgs. 2-3

MAY - JUNE, 1944

The new floor insulation!

Here's proof that PC FOAMGLAS passes the load test

On a concrete cover floor, 3 inches thick, laid over PC Foamglas blocks 4 1/2 inches thick, 18 inches long and 12 inches wide, this 3000-pound load was piled on a base area of 13 x 13 inches in the center of an 8-foot x 10-foot slab. Subsequent examinations proved that the center of the slab had settled only .0013 inch and was undamaged. The Foamglas showed no evidence of crushing.

THIS cellular insulating material that is 9 parts air hermetically sealed in 1 part glass, PC Foamglas, should enjoy general acceptance among plant managers, because of its permanent insulating efficiency. In addition, its carrying capacity far exceeds normal floor loads, as proved by the test illustrated here.

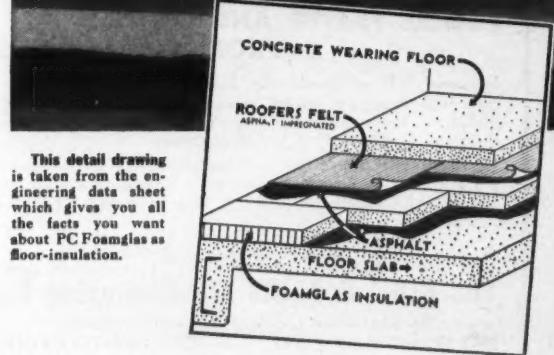
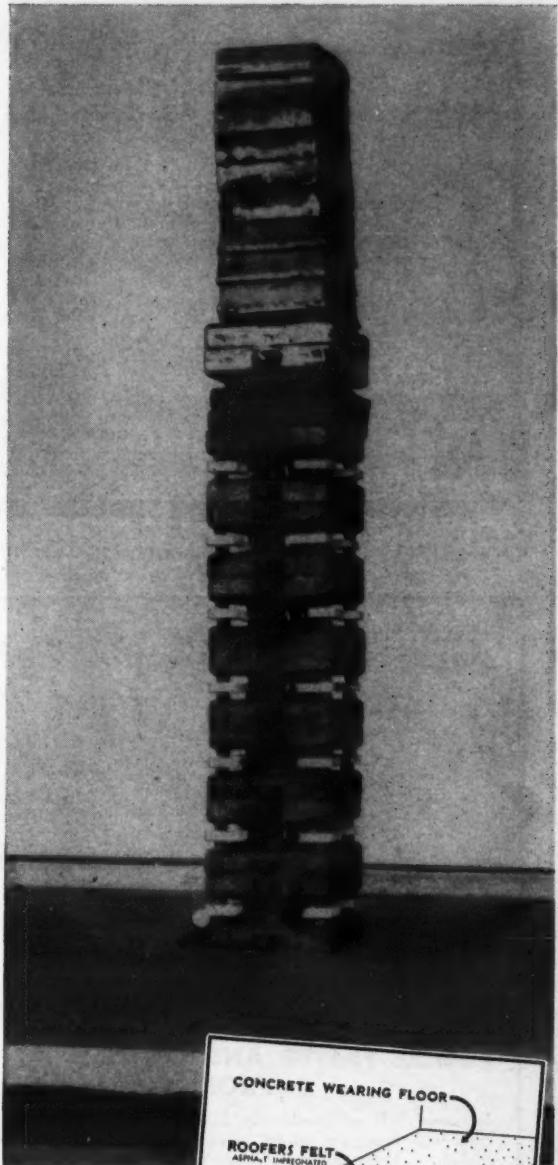
Being glass, it is impervious to moisture, acid atmospheres, vapors and fumes—which cause deterioration in other materials. PC Foamglas does not pack, slip, swell, shrink, warp or rot. It is strong and rigid—vermin- and fire-proof.

In food and chemical plants, textile mills, breweries and bakeries—in core walls and on roofs as well as on floors—PC Foamglas will maintain desired temperature and humidity levels and prevent condensation—throughout the life of the buildings in which it is installed.

Our technical staff will be glad to consult with you about your individual insulating requirements. Write today and you will receive complete information about PC Foamglas without charge or the slightest obligation. Pittsburgh Plate Glass Company, 2137-4 Grant Bldg., Pittsburgh 19, Pa.

PC FOAMGLAS T. M. REG. U. S. PAT. OFF PERMANENT INSULATION

9 parts air · 1 part glass



This detail drawing is taken from the engineering data sheet which gives you all the facts you want about PC Foamglas as floor-insulation.

When inquiring specify CP9572 . . . see information request blank, pgs. 2-3

Page 97



No Jolts or Jars with the IMPACT WRENCH even when "Bucking" the Toughest Job

Nuts can be applied or removed in a matter of seconds with the Impact Wrench. Operators like this handy tool . . . there's practically no torque reaction. Even when operated where the footing is insecure this wrench is both easy and safe to handle. Impact Wrenches . . . built in five sizes for bolt size nuts from $\frac{1}{4}$ to $\frac{1}{2}$ inches . . . have been universally adopted by practically every industry. New applications are being found every day. Ask our nearest representative for full details. Catalog 2758A. Size 504, 4 lb—Size 508, $8\frac{1}{2}$ lb—Size 514, $18\frac{1}{2}$ lb—Size 534, $27\frac{1}{4}$ lb—Size 555, 65 lb

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

When inquiring specify CP9573 — see information request blank, pgs. 2-3



KIRK AND BLUM Industrial Ovens

ASSURE FASTER AND BETTER PRODUCT FINISHING

Increased rate of production, better finishing jobs in less time with maximum safety, conservation of fuel and manpower . . . these are among important results being achieved right now by Kirk & Blum Industrial Ovens.

Whatever your particular problem, Kirk & Blum Engineers are prepared to design and install a baking or drying system GUARANTEED to turn out superior product finishing . . . at lower cost.

Send for Booklet: "Industrial Ovens"

The KIRK & BLUM Manufacturing Co.
An Organization of Engineers and Mechanics
2833 SPRING GROVE AVE. CINCINNATI 25, OHIO

When inquiring specify CP9574 — see information request blank, pgs. 2-3

Page 98

PRODUCTION

Eye Shield With Frosted Opaque Visor in Selection of Colors

Red, blue, gold, green, white visors, will not fog, shield allows 180 of vision with no seam interference, and may be worn over prescription glasses



SHIELD eliminates glare

wear over prescription glasses. It allows a 180 degree range of vision with no seam interference. Additional information regarding this eye-shield, known as the SECUR-EYE will be sent on request.

PULMOSAN SAFETY EQUIPMENT CORP., Dept. CP, 176 Johnson Sts., Brooklyn, N. Y.

When inquiring specify CP9575 — see information request blank, pgs. 2-3

Uses — This eye-shield is for all angle protection, with the advantage of eliminating glare.

Features — It eliminates overhead glare through the use of a frosted opaque visor in red, blue, gold, green or white, — and will not fog.

Description — the shield is very light in weight, only one and one eighth ounces. It is molded to follow the facial lines and is constructed for comfortable

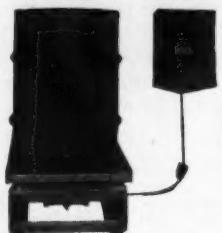
wear over prescription glasses. It allows a 180 degree range of vision with no seam interference. Additional information regarding this eye-shield, known as the SECUR-EYE will be sent on request.

INCREASE THE CAPACITY OF YOUR CONTAINERS with

SYNTRON

"High-Speed"
Electromagnet

VIBRATORY PACKERS



3,600 vibrations per minute—rheostat controlled power for variable adjustment to meet material requirements.

Capacity from large barrels to small containers.

SYNTRON

"Explosion-Proof"
Fluid Operated

HYDRAULIC JOLTERS



100 short, sharp jolts per minute are particularly effective on packing light, fine, fluffy materials and for general use in hazardous locations — under explosive atmospheric conditions, etc.

WRITE US ABOUT YOUR PROBLEM

SYNTRON CO.
110 Lexington, Homer City, Pa.

When inquiring specify CP9577 — see information request blank, pgs. 2-3

SOUTH BEND LATHES for Consistent Accuracy

Sound design and careful workmanship have made South Bend Lathes outstanding precision tools. On the most exacting machine operations, their ruggedness and power assure consistent accuracy and high efficiency. Made in Toolroom and Engine Lathe types with 9", 10", 13", 14 $\frac{1}{2}$ ", and 16" swings; two sizes of Turret Lathes, 9" and 10" swings. Write for Catalog 100-C describing these lathes.

★ BUY WAR BONDS ★



"HOW TO RUN A LATHE"

Write for this 128-page book on the operation and care of metal working lathes. Contains 865 descriptive and instructive illustrations. Written in simple non-technical style easy to understand. Sent postpaid for 25¢ in coin or stamps.

9" South Bend Precision Lathe

SOUTH BEND LATHE WORKS
SOUTH BEND 22, INDIANA
LATHE BUILDERS FOR 37 YEARS

When inquiring specify CP9576 — see information request blank, pgs. 2-3

BUCKETS

for Every Service



For excellence in
war production

Link-Belt has been building and applying elevator buckets for over sixty years, and improvements in design have kept pace with improvements in production facilities. The line includes steel, malleable iron and Promal buckets of suitable size and type to meet any requirement. Stocked at all Link-Belt plants, warehouses and many distributors.

Send for Standard Equipment Catalog No. 850

LINK-BELT COMPANY

9514-A

Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Minneapolis 5, Dallas 1, San Francisco 24, Toronto 8. Offices, warehouses and distributors in principal cities.

LINK-BELT

When inquiring specify CP9578 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

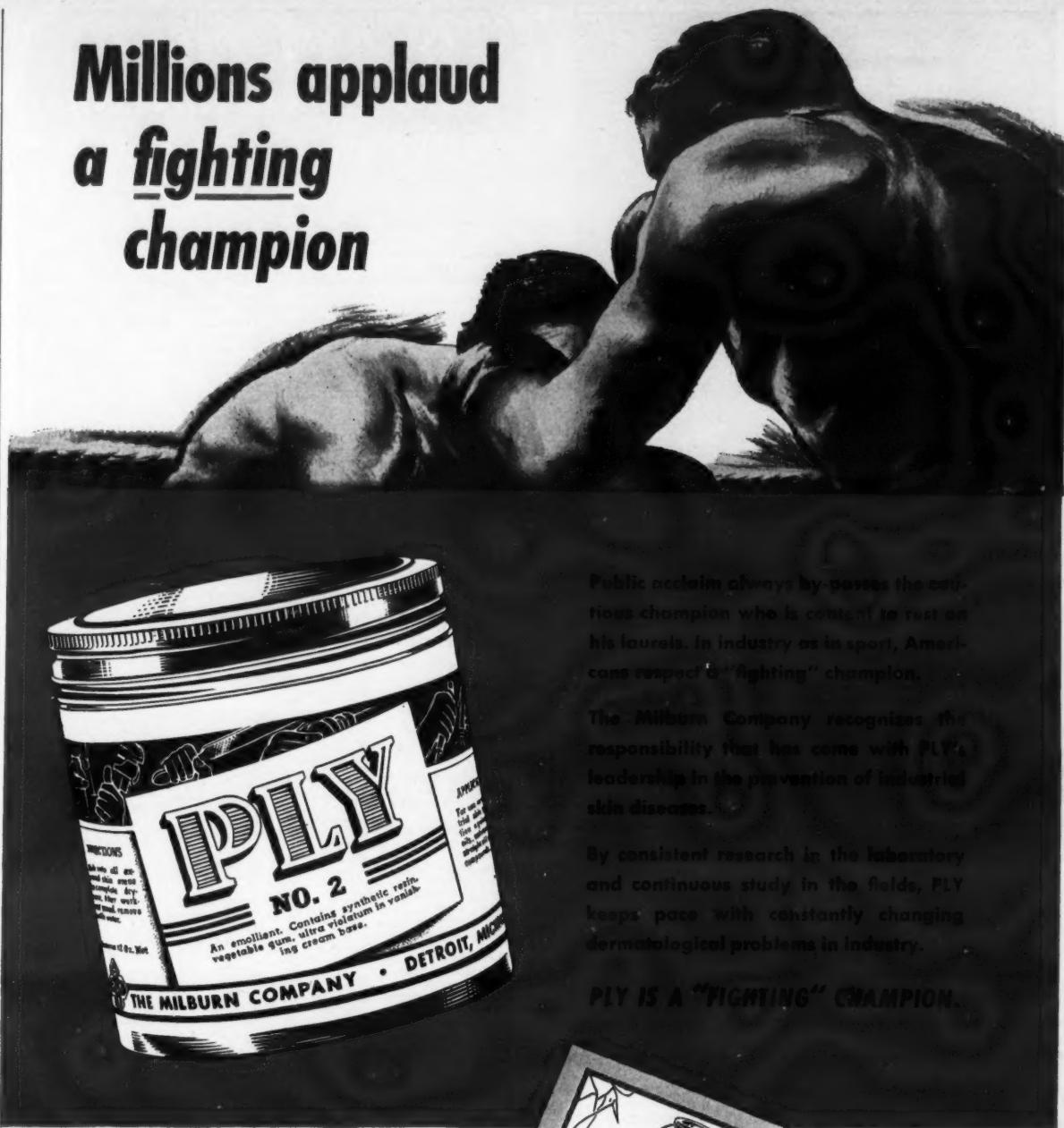
★ DIRECTORY ★ of products in this issue

You will find listed below the names of products and new literature items described in this issue, with page reference on each

Product	Page	Product	Page
A			
Abraser	18	Electric Maintenance	48
Accessories, Air & Steam	53	Electrodes, Welding	92
Adhesives	31	Electronics & Radio	40
Agitators	3, 11, 48	Elevators, Tray	58
Air Pumps & Motors	55	Embossing Machine	91
Alloys, Welding	51	Exchanger, Heat	38, 77
Analyser, Gas	16, 20	Extinguishers, Fire	46, 67, 78
Aridifier	43, 47	Eye Shields	60, 98
Asbestos Products	30	F	
Autoclave	80	Fabrics, Chemical Industry	44
B			
Babbit Segregation	34	Fans	55
Bag Closer	50	Fastenings	78
Bag Filling Machine	10	Feeder, Constant Weight	63
Batteries	96	Feeders, Chemical	37
Batteries, Flashlight	84	Filter Material, Rubber	61
Benches, Ventilated	50	Filter Plates	36
Benzene Sulfonamide	29	Filters	13, 42, 44, 75
Bins, Storage	86	Filters, Magnetic	102
Blowers	40, 96	Filters, Oil	68
Bottle Unpacker	89	Filters, Stone Disc	48
Bricks, Fire	74	Fittings	46
Bubble Cap, Louvre	12	Floor Compound, Absorbent	96
Buckets, Elevator	39, 52, 98	Floor Patch	102
Buckets, Handling	42	Flowmeters	26, 56
C			
Cans, Safety	102	Functional Units	32
Casters	100	Furfural	34
Casting Service, Alloy	67	Furnace, Laboratory	16, 24, 93
Caustic Removal	9	Furnace, Sintering	86
Cement, Iron	92	G	
Centrifugals	89	Gates, Flop	11
Chain Belts	45	Gates, Loading	53
Chain Belts, Roller	36	Gauges	14
Chart, Plastic Instrument	22	Gauges, Pressure	26
Chemicals	29	Gauges, Tank	24
Chuck, Magnetic	52	Generators, Steam	102
Cleaner, Metal	30	Glossary, Synthetic Rubber	67
Cleaners	87	Gloves, Industrial	41, 72, 74, 79
Closing Devices	78	Grating, Steel	73, 87
Clutches	70	Grommets, Acetate	80
Coal Tar Chemicals	29	H	
Coating, Plastic Cork	28	Handling Equipment	64, 78, 88
Coating, Protective	35	Heat Reclaim System	54
Coatings, Conductive	28	Heaters, Electric	32, 68, 84
Coils, Infra-red	63	Heaters, Grid	94
Cold Cathode, Light	62	Heaters, Instant	84
Color Code	65	Hoist, Chain	93
Combustion Data	55	Hose Assemblies	88
Compound, Pipe Joint	35	Humidity Control	83
Compressed Air Equipment	10	I	
Compressors	83	Idlers, Belt	66
Conduit, Insulated Pipe	50	Infra-red Equipment	59
Containers	55	Infra-red Standards	49
Control, Flow	90	Ink, Glass	33
Control, Temperature	27	Inspection Units	76
Controllers	20, 59	Instruments	17
Controls, Level	15, 60	Instruments, Test	64
Controls ... 14, 24, 83, 3rd Cover		Insulation, Plastic	30
Conveyors	7, 13, 39, 71	Insulation, Roof & Floor	97
Conveyors, Portable	4, 56	J	
Copper Ammonium Fluoride	72	Jacks	97
Coupling, Flexible	47, 87	Joints, Rotary	62
Couplings, Shaft	62	Joints, Swivel	60
Crane Power Unit	66	K	
Cream, Protective	99	Kettles, Steam Jacketed	79
Cutting Tools	43	L	
D			
Deck, End-tension	60	Laboratory Equipment	22, 24
Degreasing Units	88	Laboratory Furniture	18, 26
Dehydrator, Silica Gel	6	Laboratory Glassware	32
De-ionizing Units	4	Laboratory Ware	34
Dials & Scales	96	Label Pasting Units	45
Dilatometer	21	Lathers	98
Directory, Laboratory	48	Lehrs, Glass	90
Dispenser, Salt Tablet	55	Lift, Barrel	80
Drive, Adjustable Speed	72	M	
Dryer, Combination	88	Maintaining Equipment	100
Dryer, Test	66	Maintaining Units	100
Dryers	6	Maintenance	100
Dryers, Compressed Air	94	Maintenance, Welding	92
Dust Collectors	44, 50, 67, 75, 79, 86, 92	Electrodes	92

(Continued on next page)

Millions applaud a fighting champion



Public acclaim always bypasses the cautious champion who is content to rest on his laurels. In industry as in sport, Americans respect a "fighting" champion.

The Milburn Company recognizes the responsibility that has come with PLY's leadership in the prevention of industrial skin diseases.

By consistent research in the laboratory and continuous study in the fields, PLY keeps pace with constantly changing dermatological problems in industry.

PLY IS A "FIGHTING" CHAMPION



WRITE FOR FREE BOOKLET!

Write for booklet, "The Answer to Industrial Dermatitis," which includes comprehensive chart of specific PLY formula needed to prevent each form of industrial dermatitis.

THE MILBURN COMPANY

3246 East Woodbridge
Detroit 7, Michigan

PIONEER OF SKIN PROTECTION IN INDUSTRY

When inquiring specify CP9579 . . . see information request blank, pgs. 2-3

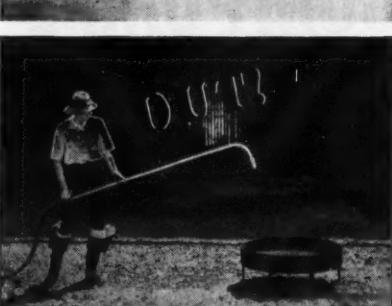
ADVERTISERS in this issue

Advertiser	Page	Advertiser	Page
Abbe Eng'g. Company	68	General Electric Apparatus Div.	32
Acme Steel Company	59	Gifford-Wood Company	58
Airesol Mfg. Company	54	Graver Tank & Mfg. Co.	49
Ajax Flexible Coupling Co.	87	Greene, Tweed & Company	30
Albertene Stone Corp.	24	Grimmell Co., Inc.	55
Allen Billmire Company	40	Groen Mfg. Company	79
Allied Radio Corp.	40		
Allis-Chalmers Mfg. Co.	10	Hardinge Company	63
Alloy Mfg. Co., Inc.	56	Harper Company, H. M.	78
Alloy Steel Products Co.	84	Havex Corp.	55
Alstop Eng'r. Corp.	68	Hendrick Mfg. Company	73
Alvey-Ferguson Co.	4	Hetherington & Berner	76
American Fdry. Equipment	86	Hills-McCanna Company	44
Amer. Manganese Steel	73	Hough Co., Frank G.	83
American Monorail Co.	64	Hunt Machine Co., Rodney	75
Amer. Photocopy Equip. Co.	10	Huppert Company, K. H.	24
Amer. Tool & Machine Co.	89		
Anderson Co., V. D.	10	Ideal Commutator Dresser Co.	84
Antesberger Bros.	88	Illinois Testing Laboratories	22
Armstrong Machine Works	74	Illinois Water Treatment Co.	4
Aurora Pump Company	54	Ingersoll-Rand Company	98
Automatic Switch Co.	20	Ingersoll Steel & Disc	94
Auto. Temperature Control Co.	58	International Nickel Co.	59
Baker-Rauling Company	34	Ironbound Box & Lumber Co.	69
Baldwin-Duckworth Div.			
Chain Belt Co.	36	Jackson & Church	6, 80
Barber-Colman Company	24	James Mfg. Co., D. O.	48
Bamstead Still & Sterilizer Co.	18	Jeffrey Mfg. Company	88
Bartlett & Snow Company	45, 83	Jessop Steel Company	92
Bosch-Russ Company	90	Johnson Corp.	62, 84
Beaver Pipe Tools Company	52	Johnston & Jennings	63, 87
Bendix Aviation Corp.	91	Jones Medical Laboratories	35
Benjamin Electric Company	76	Justrite Mfg. Company	102
Blackmer Pump Company	52		
Blaw-Knox Company	38, 87	Kemp Mfg. Company	94
Blackman, Inc., S.	54	Kewaunee Mfg. Company	26
Bowser, Inc., S. F.	47	Kinney Mfg. Company	92
Bristol Company	59	Kirk & Blum Mfg. Co.	98
Brown Finiture Company	77	Knight, Maurice A.	32
Builders-Providence	56	Kold-Hold Mfg. Co.	51
Bump Pump Company	63		
Buscott Mills Corp.	44	Laboratory Furniture Co.	18
Buchman Co., E. W.	56	Lammer & Mann Co.	102
B/W Controller Corp.	60	Lapp Insulator Co.	4th Cover
Cambridge Instrument Co.	20	Leeds & Northrup Co.	4
Caxdon Corp.	78	LeVal Filter Co.	48
Carey Co., Philip	96	Lift Trucks, Inc.	43
Cash Company, A. W.	23	Lincoln Engrg. Co.	94
Chain Belt Company	66	Lindberg Engrg. Co.	16, 93
Chicago Eye Shield Co.	60	Link-Belt Company	39, 41, 98
Chicago Show Printing Co.	86	Liquidometer Corp.	24
Chiksan Tool Company	60	Logan Engrg. Co.	47
Clark Tractor Company	86	Lumenite Electronic Co.	60
Cleaver-Brooks Company	102		
Cleveland Worm & Gear Co.	70	Marsh Corp., Jas. P.	14
Clipper Mfg. Company	73	Mason-Neilan Regulator Co.	19
Cochrane Corp.	45	Maymer Corp.	96
Colonial Insulator Co.	80	Merco-Nordstrom Valve Co.	74
Commercial Shearing & Stamping Company	41	Meriam Instrument Co.	26
Consolidated Pkgg Machy. Co.	38	Milburn Company	99
Cooper Alloy Foundry Co.	67	Milton Roy Pump Co.	7
Corning Glass Works	27, 32	Mine Safety Appliances Co.	50
Crane Company	38	Mixing Equipment Co.	95
Crane Packing Co.	94	Monsanto Chemical Co.	29
Darling Valve & Mfg. Co.	87	Mortell Co., J. W.	28
Davis Regulator Company	62	Multiplex Concrete Machy. Co.	40
Diamond Chain & Mfg. Co.	62	Murray Mfg. Co., D. J.	94
Dieter Co., Harry W.	24		
Dings Magnetic Separator Co.	10	Natl. Annealing Box Co.	28
Dodge Mfg. Company	61	Natl. Drying Machy. Co.	66
Dracco Corp.	75	Natl. Technical Laboratories	62
Durametallic Corp.	57	Neff & Fry	86
Eagle-Picher Sales Co.	30	Neville Corp.	28
Eastern Eng'r. Company	100	Newark Wire Cloth Co.	46
Eclipse Air Brush Company	48	Niagara Blower Company	38
Economy Pumps, Inc.	68	Niagara Filter Corp.	42
Edge Moor Iron Works	65	Nicholson & Co., W. H.	36
Edmont Mfg. Company	72	Northern Engrg. Works	66
Edward Valve & Mfg. Co.	45	Norton Company	34
Elliot Company	42		
Entel Engrg. Corp.	44	Palmer Company	26
Exact Weight Scale Co.	82	Palmer-Shile Company	85
Fairbanks, Morse & Co.	71	Pangborn Corp.	50
Farval, Inc.	12	Paragon Electric Co.	32
Filtex Media Corp.	36	Parsons Engrg. Corp.	67
Firer Machinery Corp.	44	Patterson Foundry & Mach. Co.	48
Fleetrock Company	102	Permochar Company	22
Foster Engrg. Corp.	23	Pfaudler Company	3
Foxboro Company	20	Pfizer & Co., Charles	31
French & Hecht, Inc.	51	Photoswitch, Inc.	15
Gast Mfg. Company	55	Pioneer Rubber Co.	41
Gates Rubber Company	53	Pittsburgh Equitable Meter Co.	26
General Detroit Corp.	67	Pittsburgh Plate Glass Co.	70, 97
		Porter Company, H. K.	5
		Powers Regulator Company	18
		Premier Mill Corp.	40

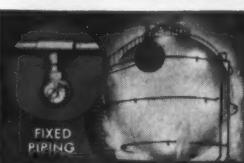
(Continued on next page)

**WATER PUT OUT
THIS OIL FIRE**

**...WATER IN
WaterFOG
FORM!**



**Water Engineered by Rockwood
Cools, Confines, Smothers Oil Fires**



HOSE NOZZLES

ROCKWOOD
WaterFOG Equipment
Protects Bonded Warehouse



At Melchers Distilleries, Ltd., Berthierville, Quebec, an automatic WaterFOG Deluge System protects the whiskey warehouses from destruction by fire.



WaterFOG system in test operation. Fan-shaped curtain of WaterFOG fills aisle between racks of barrels. WaterFOG can also be discharged from heads under racks.

Fixed Piping Installations for Many Hazards

Wherever flammable liquids are stored, processed or transferred, a Rockwood-engineered installation of fixed piping, heads, valves and automatic control devices will provide maximum protection from fire. In planning such systems, Rockwood engineers (authorities on hydraulics, as applied to fire protection) make individual recommendations for spacing of heads, fog pattern, distance of heads from hazards, etc.

Typical installations are:

WaterFOG Protection for

- dryers
- degreasing machines
- coating machines
- chum rooms
- mixing and boiling kettles
- spreaders
- reactors, etc.

Write for Bulletin 123, giving more complete information on WaterFOG equipment. **EXECUTIVES!** A colored movie (16mm.) showing tests of Rockwood WaterFOG, is available.

When inquiring specify CP9583 . . . see information request blank, pgs. 2-3

One of Many
Installations of
Stearns Mag-
netic Filters in
the Ceramic
Field.



For removing iron par-
ticles from finely

ground wet material or
liquids. A powerful,
highly magnetized
screening element,
fool-proof, automatic
to prevent contamina-
tion by interruption of
current.

Write for this
new Bulletin 120

**Stearns Magnetic
Manufacturing Co.**

642 S. 28th St., Milwaukee 4, Wis.
CLUTCHES — BRAKES — MAGNETS

When inquiring specify CP9584 — see information request blank, pgs. 2-3



PATCH FLOORS ... Truck Over Immediately

Here's a new, fast way to patch broken concrete without having to close off the area. Use durable INSTANT-USE . . . a tough, plastic material which you simply shovel into hole — tamp — and run traffic over immediately. NO WAITING. Bonds tight to old concrete. Makes smooth, solid, heavy-duty patch. Withstands extreme loads. Keep a drum on hand for emergencies. Immediate shipment.

REQUEST DESCRIPTIVE FOLDER
And Details of FREE TRIAL OFFER



INSTANT-USE

FLEXROCK COMPANY
3611 Filbert St., Philadelphia 4, Pa.

Please send me complete INSTANT-USE information . . . details of FREE TRIAL OFFER—no obligation.

Name _____
Company _____
Address _____

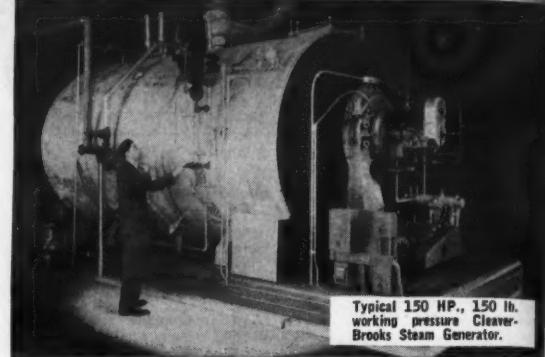
When inquiring specify CP9585 — see information request blank, pgs. 2-3

Page 102

ADVERTISERS in this issue

(Continued from preceding page)

Advertiser	Page	Advertiser	Page
Proportioners, Inc.	2	Square D Company	14, 20
Pulmonos Safety Appliances Co.	70	Stearns Magnetic Mfg. Co.	102
Pulverizing Machinery Co.	76	Stephens-Adamson Mfg. Co.	13, 90
Quaker Oats Company	34	Sterling, Inc.	88
Read Machinery Company	8, 9	Struthers Wells Corp.	11
Reliance Electric Company	72	Surety Rubber Company	79
Richmond Mfg. Company	67	Surface Combustion Corp.	85
Robbins & Myers, Inc.	79	Syntron Company	98
Robins Conveyors, Inc.	70	Taber Instrument Co.	18
Ric-Wil Company	50	Taber Pump Company	34
Ridge Tool Company	81	Taylor Instrument Co.	17
Rock-Tred Corp.	30	Thomas Truck & Caster Co.	100
Rockwell Co., W. S.	41	Toledo Scale Company	58
Rockwood Sprinkler Co.	101	Towmotor Corp.	82
Roots-Conversville	96	Triangle Package Machy. Co.	82
Ross Engrg. Corp.	6	Turco Products Company	30
R-S Products Co.	72	Union Special Machine Co.	50
Russell & Stoll Co.	76	U. S. Stoneware Company	35
Sabin Machine Company	74	Universal Road Machy. Co.	46
St. Regis Paper Co.	10	Wakefield Brass Co.	90
Sargent & Co., E. H.	21	Weatherhead Company	46, 88
Save Electric Corp.	100	West Bend Equipment Co.	46
Schaub Engrg. Co., Fred H.	34	Western Felt Works	92
Screen Equipment Co.	80	Western Precipitation Corp.	79
Screw Conveyor Corp.	52	Westinghouse Electric &	
Seiberling Latex Products	74	Seiberling Latex Products	103
Sheldon & Co., E. H.	22	Wescon Elec'l Instrument Co.	64
Shriver & Co., T.	72	Wheelco Instruments Co.	22
Signode Steel Strapping Co.	52	Whiting Corp.	44
Simplicity Engrg. Co.	68	Wiegand Company, Edw. L.	84
Sly Mfg. Co., W. W.	92	Wilson Chemical Feeders	37
South Bend Lathe Works	98	Wyandotte Chemicals Corp.	33
Sparkler Mfg. Company	75	X-Pando Corp.	35
Sperry Co., D. R.	78	Yale & Towne Mfg. Co.	47
Spray Engrg. Company	90	Yarnall-Waring Co.	31, 55
Spraying Systems Co.	69		
Sprout, Waldron & Co.	70		



Typical 150 HP, 150 lb.
working pressure Cleaver-
Brooks Steam Generator.

STEADY DOES IT...

Cleaver-Brooks oil-fired Steam Generators maintain that steady, even steam pressure necessary for close control of processing operations. Better production and lower operating costs naturally result. Cleanliness in operation — no ashes, smoke, or dirt . . . High thermal efficiency — over 80% guaranteed . . . Easy, inexpensive installation . . . a compact, space-saving unit . . . and practically negligible cost for supervision and maintenance are Cleaver-Brooks advantages.

CLEAVER-BROOKS COMPANY

5124 N. 33rd St.

Milwaukee 10, Wis.

STEAM
GENERATORS

When inquiring specify CP9587 — see information request blank, pgs. 2-3

WHEN ONE
SPARK MEANS
FIRE...



JUSTRITE MEANS REAL SAFETY

Justrite Safety Products offer the safe means of handling dangerous materials. The Justrite Safety Can and Safety Filling Can reduce hazards when working with volatile liquids. The Justrite Oily Waste Can stores oily grimy waste safely.

These Justrite Safety Products carry the approval of Underwriters' Laboratories, Inc. and Associated Factory Mutual Fire Insurance Companies.



Write today for complete information

JUSTRITE MANUFACTURING COMPANY
2063 N. Southport Avenue, Dept. B-5, Chicago, Ill.

When inquiring specify CP9588 — see information request blank, pgs. 2-3

CHEMICAL PREVIEW

DO YOU HAVE A NEW SOLUTION?

Has a recent use of your equipment solved a difficult chemical process plant problem? The equipment may be new or from your standard line. For publication, data should state definitely (1) Nature of operation question, i.e., cooking, cooling, mixing; (2) Difficulties involved such as control of temperature, product uniformity, fabrication or cleaning; (3) how was equipment used — in standard or modified form? (4) results, facts on savings in time, labor, increased production or similar cost factors or extent of product improvement. Address to Editors.

CHEMICAL PREVIEW

7 N. Michigan, Chicago 11, Ill.
(over)

for
fabri

The
coal
bin
fuel
lizing
cover
to
w
cess

DO YOU HAVE A NEW PRODUCT?

improved product, either plant or laboratory equipment . . . or a new improved material . . . of specific interest to the chemical process field? If you will submit detailed information including uses, specifications, performance, distinctive features, nature of accompanying photos, drawings or size cut available, our Editors will consider it carefully for presentation to the 25,000 readers of this publication. There is no obligation. Write the Editors.

CHEMICAL PREVIEW
737 N. Michigan, Chicago 11, Ill.

That's Interesting

Liberty-Victory Ship Galleys Conserve Vital Materials

Conservation and efficiency are achieved in the galley equipment of the new Liberty and Victory ships. Design and arrangement of equipment makes it possible to make the most of the fifteen square feet, which does not include a small scullery pantry. Victory ship facilities are slightly larger than those of the Liberty. Ranges now used are oil burning and other modernized equipment includes electric garbage grinder, ice making refrigerator, electric dough mixers, thaw sink and rack. Specifications originally called for steam jacketed kettles of stainless steel or sheet aluminum and base aluminum bronze finished steel. Bodies of these kettles are now made of single-clad stainless steel forming the inside surface of the kettle. Range heated coffee percolators were replaced by steam heated urns. Galvanized iron replaces brass, copper, steel in various instances. It costs about \$3550 to equip the galley and an additional \$953 for table and kitchen utensils on the Victory and a total of about \$3200 on the Liberty models. (Data, U. S. Maritime Comm.)

Glycerine Restrictions Temporarily Suspended

Increased production of fats due to the unprecedented number of hogs which came in to the market during the early months of the year has resulted in a temporary suspension by the War Food Administration of restrictions on the use of glycerine for civilian needs. The suspension will continue through April, May and June. It is anticipated that the suspension will enable the manufacturers to replenish their inventories. Reporting requirements of FDO No. 34 remain unchanged. Users must continue to submit monthly reports on consumption to the Bureau of the Census on form BM-1; and producers, refiners, and distributors still must report production, shipments and total stocks to the War Food Administration on form FDO 34-1 (Revised). This does not mean that there is no further need for salvaged kitchen fats. Requirements are greater now than ever and waste should be avoided.

Protect Victory Garden Seed

The number of Victory Gardens that is the goal for 1944 is 22,000,000 expected to produce about 18,000,000,000 pounds of vegetables. Many Victory Gardeners will treat seed with "Semesan" (E. I. du Pont de Nemours & Co., Inc.) organic mercury seed disinfectant, usually protecting the seed against decay and damping off, which results in weakened plants. It is effective when cold, wet soil conditions, immediately follow planting. This disinfectant also reduces the danger of soil contamination from seeds containing spores of disease organisms.

Portable House

In Arizona, a rubber company has a prefabricated portable house 184 feet by 27 which can be telescoped into a width of only seven feet eleven inches for highway transportation.

Plastics on Land and Sea

Plastics and other synthetics are substituting for many scarce materials. Impregnated webbing is employed instead of leather for harness. The Coast Guard is using buoys of rubber and fabric instead of steel plate. (Domestic Commerce.)

China Using Charcoal Burning Trucks

The Chinese government is purchasing a large number of charcoal gas generators for use in trucks. It consists of a storage bin for the charcoal and a chamber for transforming the solid fuel into combustible gas. A metal coating process (Metallizing), permits the use of mild steel base plates and cast iron cover plates. This process makes it possible for these metals to withstand the heat imposed. Prior to adopting this process the base plate was a heavy nickel-chrome casting.



HERE'S HOW TO GET THIS NEW BUYING DATA

If you are a buyer of Motors and Control, chances are you have already received this new buying data by mail.

However, if you have not received your copy, write, wire or phone your nearest Westinghouse district office (requests will be filled through district offices only—no mailings from Westinghouse Headquarters at East Pittsburgh). Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.



Westinghouse
PLANTS IN 25 CITIES... OFFICES EVERYWHERE

MOTORS AND CONTROL

"Motor Buying Data" covering popular types and ratings of motors (up to 100 hp), Gear-motors and M-G sets.

"Control Buying Data" listing a wide variety of controllers and accessories for direct current, single-phase, squirrel-cage, wound rotor motors.

J-90499

When inquiring specify CP9200... see information request blank, pgs. 2-3



- Study of the cut-away drawing of the Lapp Valve has determined many an engineer to try this equipment in his process. We've yet to hear of a case in which that judgment wasn't substantiated by the valves on the job. All the valves sketched at the left incorporate the same principles of construction. If you want to eliminate contamination, break-downs, shut-downs, slow-downs and maintenance, get some experience with Lapp Valves. *Lapp Insulator Co., Inc., Chemical Porcelain Division, LeRoy, N. Y.*



Lapp